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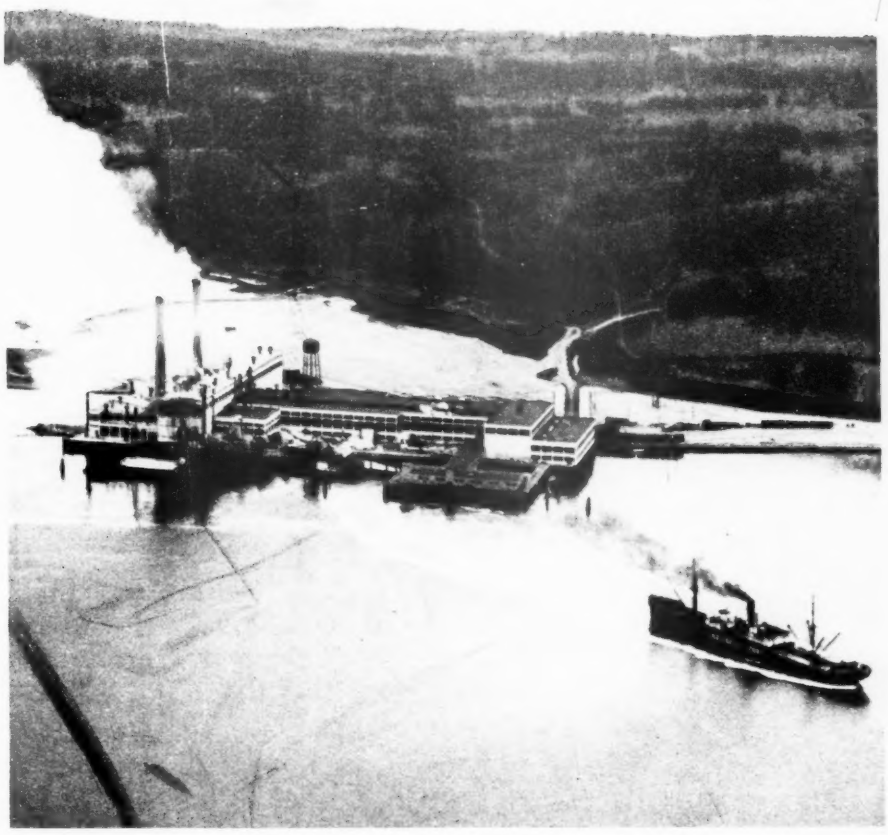

National Paper Products Company, Port Townsend

NOVEMBER + 1931

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TACOMA, WASH.
SUBSIDIARY PENNSYLVANIA SALT MFG. COMPANY

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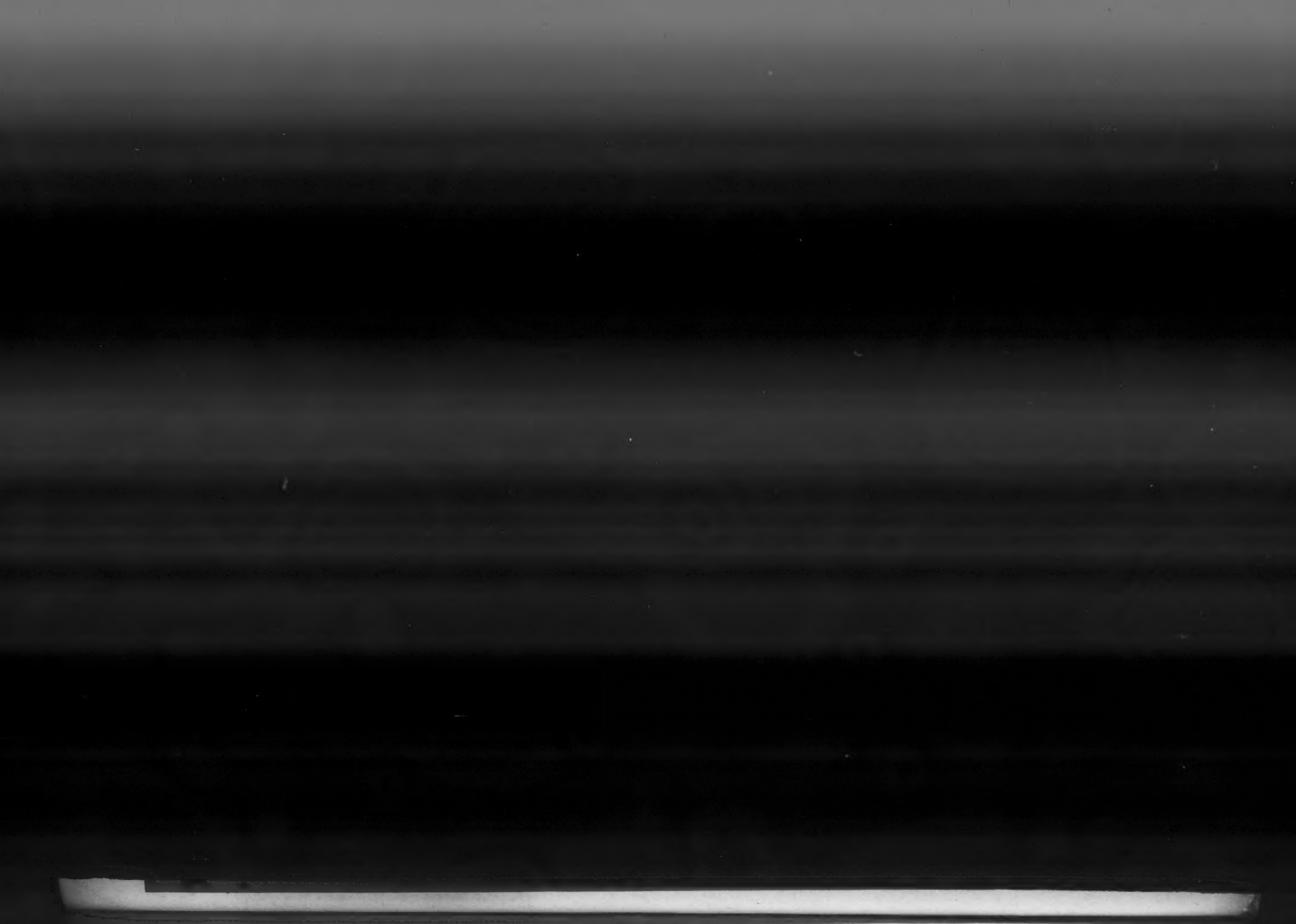
WESTERN DIVISION OF PENNSYLVANIA SALT MANUFACTURING CO.

Pacific Pulp & Paper Industry is published once a month—except in March, when publication is semi-monthly—at 71 Columbia St., Seattle, Wash. Subscription: U. S. and Canada, $4.00; other countries, $5.00. Entered as second class matter May 20, 1927, at the Postoffice at Seattle, under the Act of March 3, 1879.



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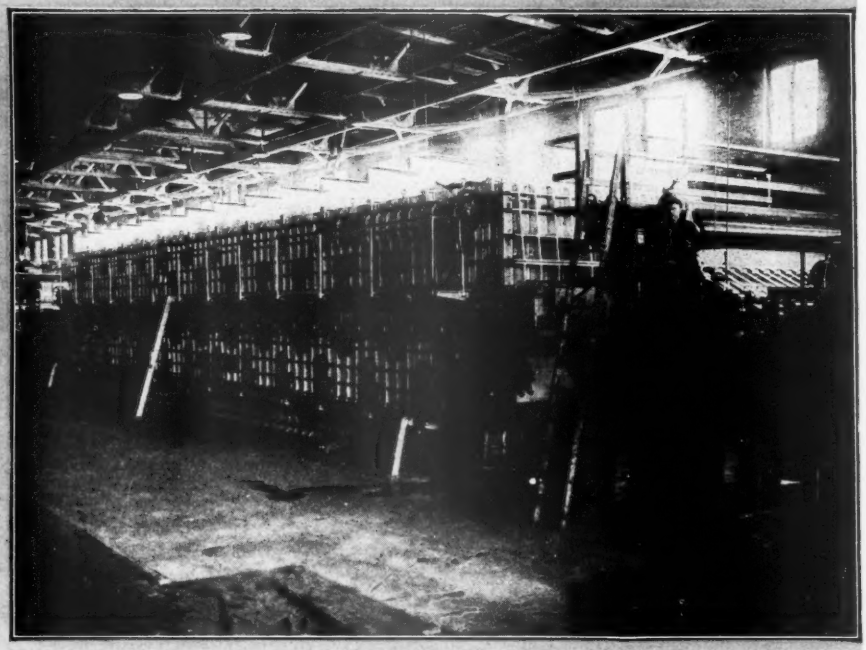

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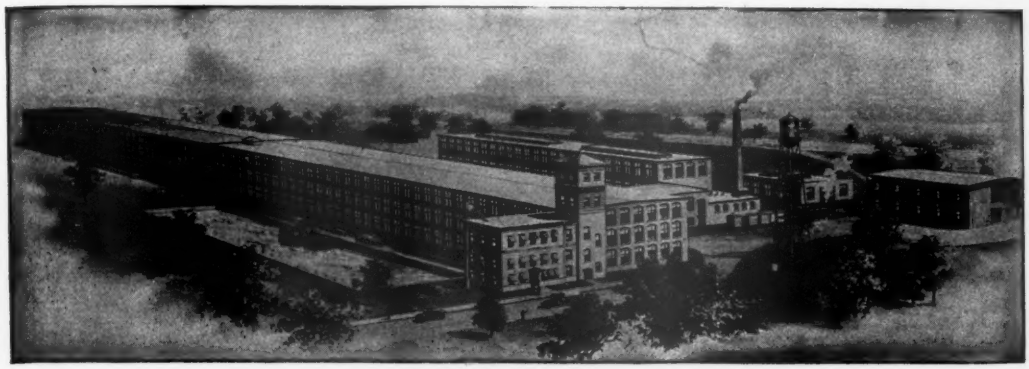

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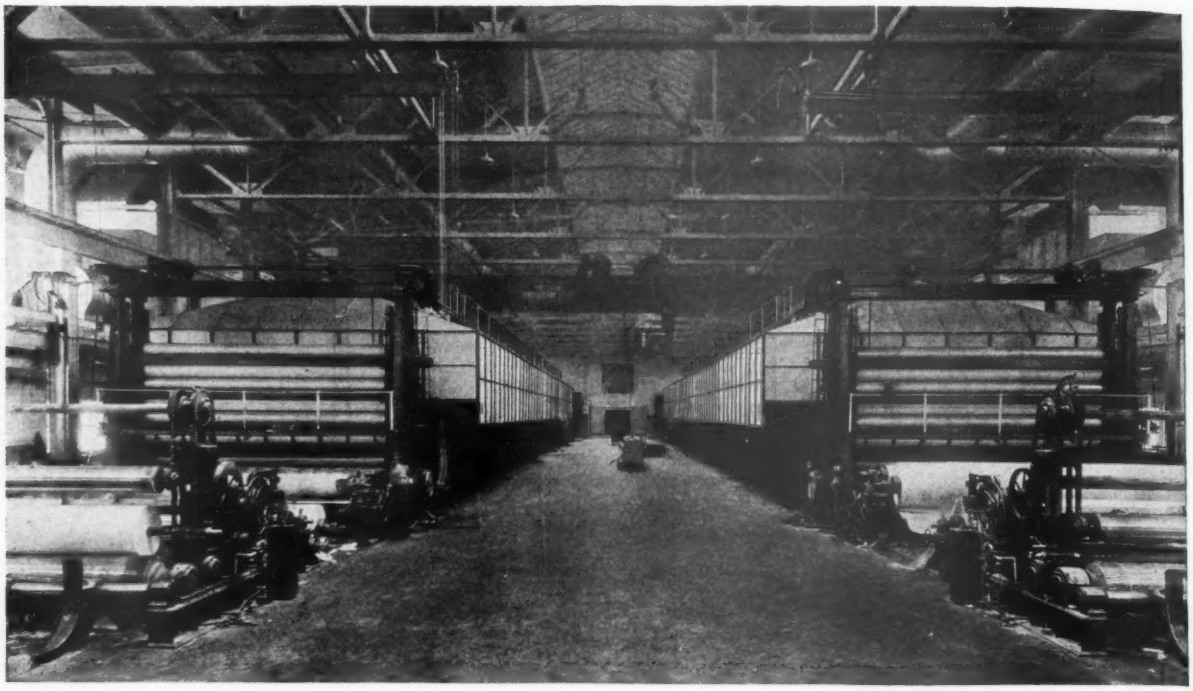

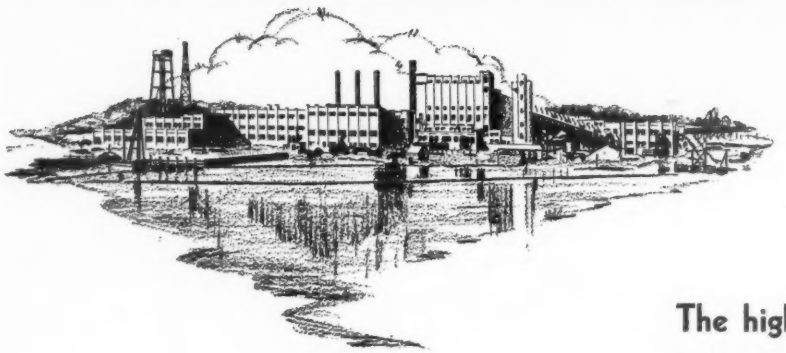

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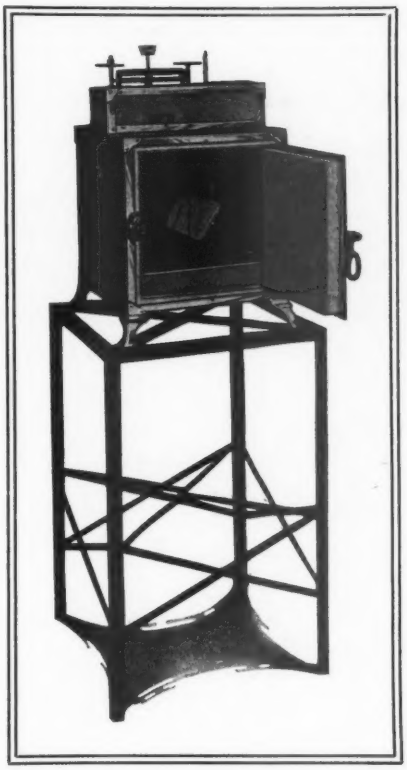

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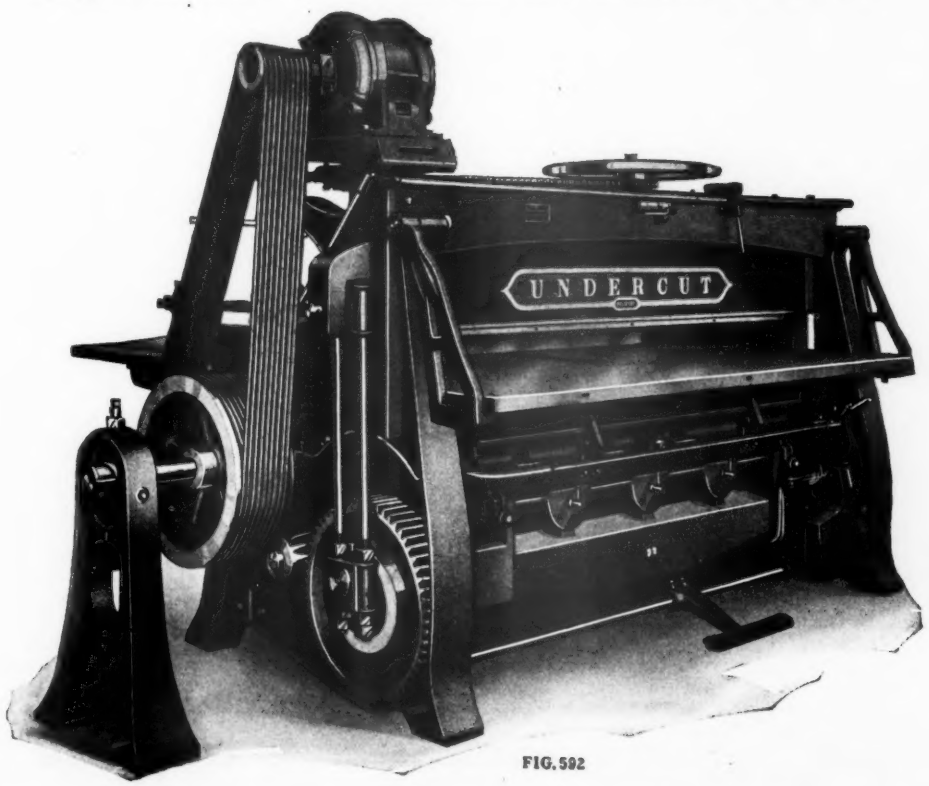

FIG. 592

THE SMITH & WINCHESTER MFG. CO.

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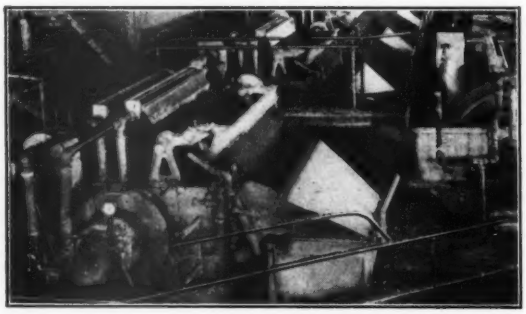
— PAPER BAG MAKING MACHINERY —

Southern Kraft Corporation...



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The great adaptability of these Oliver United units and their all 'round efficiency mean low-cost production for the Southern Kraft group. Oliver United units give equally good results everywhere.

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2 Save-Alls

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2 Save-Alls
1 Lime Mud Filter

CAMDEN
4 Deckers
2 Save-Alls
1 Lime Mud Filter

PANAMA CITY
5 Decker Washer Save-Alls
2 Save-Alls

BASTROP
3 Decker Washer Save-Alls
2 Save-Alls
1 Lime Mud Filter

LOUISIANA
4 Decker Washer Save-Alls
1 Save-All
1 Lime Mud Filter

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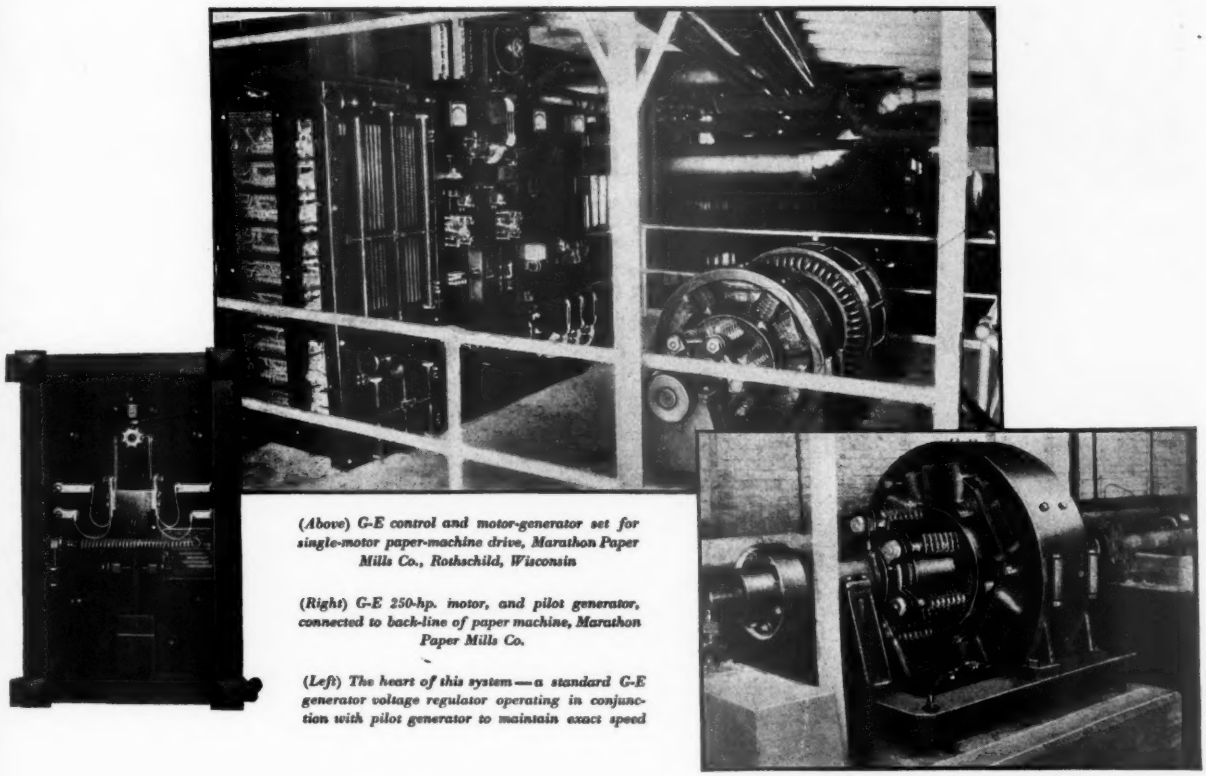
Modernize the adjustable-speed portion of your paper machine with G-E SINGLE-MOTOR DRIVE



(Above) G-E control and motor-generator set for single-motor paper-machine drive, Marathon Paper Mills Co., Rothschild, Wisconsin

(Right) G-E 250-hp. motor, and pilot generator, connected to back-line of paper machine, Marathon Paper Mills Co.

(Left) The heart of this system — a standard G-E generator voltage regulator operating in conjunction with pilot generator to maintain exact speed

THIS new G-E system, illustrated here, considerably extends the field of single-motor paper-machine drive. Consider what it has to offer:

Close and positive speed regulation with a speed range of 10:1.

Easy and convenient adjustment over this wide range with a regulator that is both simple and strong, and whose characteristics may be easily understood by your mill electrician.

A system that eliminates varying speed as a factor in weight control.

Your nearest G-E office has complete information on G-E single-motor drives for paper machines and will be glad to supply details.

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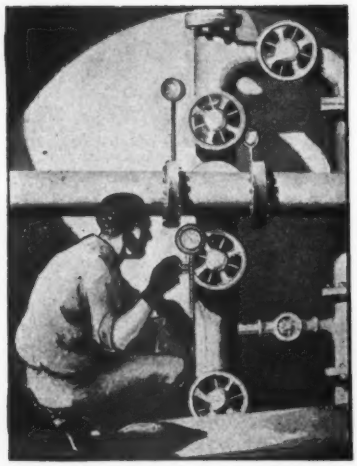

APPLICATION OF CHLORAMINES IN WHITE WATER

CONTROL and elimination of slime in the white water system is vital, because conditions there are ideal for the growth of slime bacteria. The water is constantly recirculated through the system, and is kept at a relatively high temperature. The result is that white water storage tanks and other equipment are frequently heavily coated with slime which decomposes the stock and consequently gives off offensive odors.

Chloramines are highly effective in treating slime in the white water system. Experimentation has indicated that restricted application to the raw water supply, with relatively heavy dosage in the white water, is the most desirable method of application. It is more economical, gives greater assurance of eliminating the slime throughout the whole system, and prevents the decomposition of stock with the usual accompaniments: discoloration, disagreeable odor, etc.

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Published by the Consolidated Publishing Co., in Seattle, U.S.A., on the 15th of each month—semi-monthly in March.

PACIFIC PULP and PAPER INDUSTRY

SUBSCRIPTION RATES
United States and Canada....$4.00
Other Countries $5.00
Single Copies .....$ .35

VOLUME V NOVEMBER, 1931 NUMBER 12

MILLER FREEMAN, President
L. K. SMITH, Manager
LLOYD E. THORPE, Editor
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THE PACIFIC COAST JOURNAL FOR PRODUCERS, CONVERTERS, AND DISTRIBUTORS OF PULP, PAPER, AND BOARD.

SEATTLE 71 Columbia Street
PORTLAND 446 Morrison St.
SAN FRANCISCO 369 Pine Street
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BAD TIMES BEHIND

A Review of Some Depression Profits

This article developed in an interview with the general manager of a successful paper mill. Reminding this executive that business was now witnessing the second anniversary of the famous stock market crash in 1929, we asked what these two years had meant to his organization and to the industry. It is believed you will like this man's viewpoint. Had he not been so modest we should have had the privilege of giving proper credit for the article.—Editor.

SOME have called it a "depression," others have referred to it as a period of "business stagnation," a few have been content to regard it as a period of "adjustment," while not a small number have plainly wept and proclaimed these last two years as just plain "hard times."

As a matter of fact, the handles all fit the same spade. Call it what we wish, the fact is that when the stock market cracked just two years ago this month we entered into an economic period that certainly was different than the several years preceding. That stock market bust has been blamed for all the loss of orders, sag in prices, and unemployment that has since occurred.

But the stock market is not entitled to all the blame, not by a little bit. You've seen these gay young swains touch a lighted cigarette end to a toy balloon that some youngster has blown up to the bursting point. You knew for a certainty that if the youngster just puffed a couple more times the balloon fabric just naturally wasn't going to be able to stand it. The hot cigarette end simply touched off the inevitable.

Something like that has happened to us. Personally, I can't feel too sorry about the whole thing. To the contrary, I'm real glad that we had this "depression," from which we are now slowly but definitely beginning to emerge. While I like to sympathize with the little boy for the loss of his balloon, deep in my heart there's a thought that a little more care is going to be used next time in blowing up the gadget to the point where someone will be tempted to burst it.

The depression was a return to sanity. No one can truthfully stand up and say that the scale of living we had brought ourselves up to in mid-1929 was a normal condition. There was inflation in every nook and corner. Buying power was mortgaged far in advance, without the exercise of ordinary judgment. Speculation was hog-wild. Productive capacity was expanded on the thin ice of hopes alone. Our every action was inflating the balloon to the inevitable bursting point. The stock market crash simply precipitated the event.

We have now had two years in which to forget our cream puff and pastry diet of 1929 and re-establish an acquaintance with pork and beans. We have had time to liquidate our luxury ideas and bring back a more sound economic health thru the process of diet. That ring of fat around the middle has been trimmed down. We have just about accomplished the task of adjusting expenses to income, of balancing production to distribution. It has been painful for all of us. It has been fatal to some marginal units.

What have we learned in these two years? Aside from deflating our ego we have learned many new tricks about operating and selling. We are reminded of the little boy, who, having done wrong, tucked a shingle under his trousers before going home, explaining to his fellows that "mother is the necessity of invention."

In our own mill experience we have discovered unthought of corners where we could cut the cost of manufacture. From my contact with other organizations in the paper industry I know this is generally true. Perhaps none of us knew what we could do until we had to do it. The pressure on prices came in sales, but the main adjustment had to be made in the mill.

The mill men, having had to stay home, have brought their mill problems into sharper focus. The distribution men, pressed for orders, have evolved economies also. The equipment and supply men too have sharpened their wits and reduced their costs and prices. To say nothing about improving their machines.

While business, viewed from the standpoint of sales volume, may have temporarily gone backward, science and the technique of operating have continued to go forward. Along with closer attention to business, these improvements in technique have served to whittle down the manufacturing costs. It is undoubtedly true, that had their been no depression, we would have made

Altho business, viewed from the standpoint of sales volume, may have temporarily gone backward, science and the technique of operating have continued to go forward. Had there been no depression, some progress would undoubtedly have been made in reducing production costs, but we would not have made the radical strides which close attention to business has forced upon us.

some progress in reducing costs of production, but certainly we would not have made the radical strides of the past two years had business continued to come in on a silver platter in the arms of a butler.

Now the encouraging thing about cost reductions is that they are permanent gains. The progress we have made we will keep. Business can not forever continue on a basis of sales below cost. Therefore, when sales prices do again assume that normal position of cost plus reasonable profit, we will be in a much better position than we were in 1929. I am speaking for the average of the industry. For some unfortunate few the economic diet will be the undoing, but that is the way of life. There is nothing accomplished in mourning those who were destined to pass.

Another good the depression has accomplished has been in providing time for general plant rehabilitation. With some enforced idleness for equipment and employes the past two years have been propitious ones for making some improvements that would have interfered with production schedules if attempted in time of rush orders. There is plenty of evidence in the paper industry, as well as in most industries in general, that plant managements have seized upon the time to accomplish the double purpose of bringing delayed improvements down to date and keeping employes on the payroll. Our own company has in the past two years improved its plant, carrying out this work to large degree with its own regular employes, spreading the work out over a considerable period of time to avoid the inevitable wastes of rush. In this our company is not at all an isolated example, as ordinary observation in the industry will testify. There have been other advantages in making these delayed improvements during the dull period. Costs have been generally lower, labor has been more efficient, and equipment people have been more able and willing to give service.

Of course, in all this discussion of "depression" there is no desire at all to be an inane Pollyanna. While in this article the main attempt is to point out some of the lasting benefits of a depression, I do not wish to give the idea that it has all been sweet. But, we have heard plenty of the bitter. It does us no particular good to be continually reminding ourselves and others about that side.

The thing to remember now is that we have two years of this "depression" behind us.

E. G. DREW
Elected
Secretary-Treasurer
Pacific Section
TAPPI

Champion Fibre Orders 242-Inch Book Machine

Pusey and Jones Corporation, builders of paper machines, closed a contract last month with the Champion Fibre Company, of Canton, N. C., to build the largest book paper making machine ever built, at a cost understood to be between $450,000 and $500,000.

The machine will be the widest, largest, and fastest of its kind in the world. It will be 242 inches in width, operate up to 1,000 feet per minute and will produce up to 150 tons per day. The total shipping weight will be about 1,500 tons.

The contract will enable the Pusey and Jones Company to call back a considerable portion of its employes and will occupy the time of about 300 men from November 1 to April 1.

It was explained that the work was secured on a low basis with the prompting motive being at values in line with the present industrial situation. Plans are being worked out to distribute the work over two shifts of six hours each, so that the money will go to a greater number of people.

There never was a better time than right now to put in your subscription to PACIFIC PULP & PAPER INDUSTRY. It gives you the facts.

Crown Zellerbach Refinancing Denied

There is no substance in the report that the Crown Zellerbach Corporation is contemplating a reorganization of its financial structure, nor is there any need for any such reorganization. That, in brief, is the emphatic denial to current rumors made by Louis Bloch, chairman of the board of the Pacific Coast's largest pulp and paper group. The rumors are believed to have grown from the fact that the corporations securities have in general been quoted at low levels recently.

THE MILL ON THE COVER

The 200-ton kraft pulp and paper mill of the National Paper Products Company at Port Townsend, Washington, has many interesting features about it. It is the newest development in kraft on the Pacific Coast. The tonnage is divided about equally between kraft board, produced on a cylinder machine, and kraft papers, produced on one of the widest and fastest machines in that branch of the industry.

The mill occupies a tidewater site about two miles south of Port Townsend, which is situated on the extreme Northeast corner of the Olympic Peninsula and commands the entrance to the entire Puget Sound country. The mill is served by a branch line railroad with car ferry service to trunk line terminals at other Sound cities.

This particular aerial photo of the mill is interesting in that it affords a view entirely across the comparatively narrow neck of land on which the mill is situated. Immediately beyond is Discovery Bay and losing itself in the distance is Juan de Fuca Strait which leads to the open sea.

Anderson Returns From East

Ossian Anderson, president of the Puget Sound Pulp & Timber Company, returned early in the month from an extended Eastern trip, and very shortly thereafter made a quick airplane trip to California. Mr. Anderson has not discussed the business conducted on the Eastern trip, but it is understood that he has been negotiating matters of far reaching consequence.

The company's new mill at Everett is running at exceptional capacity, its monthly production of high grade bleached sulphite pulp going about 5,000 tons. The Bellingham plant is turning out from 90 to 100 tons of unbleached daily.

The Fall Meeting of

TAPPI's Pacific Section

UNDER the guiding hand of Vice-Chairman Harry Andrews, head chemist of the Powell River Company Ltd., the Pacific Section of TAPPI met on October 23 at Powell River, that busy paper mill town on British Columbia's shores some 80 miles north of Vancouver. Attendance was somewhat smaller than that experienced at previous meetings of the Section, but this was attributed in large degree by those present to the well known depression, which has forced all manner of curtailments.

The convention began informally with the arrival of delegates on board the coastal steamer which left Vancouver Thursday evening. By 7:30 Friday morning, October 23, TAPPI matters were in full discussion at the breakfast table. The actual session opened its Fall meeting at 9 a.m. in Dwight Hall, with Mr. Andrews in the chair.

The morning session was given over to three principal papers. A. H. Lundberg explained some "New Developments in Sulphite Cooking," the discussion revolving around the Brobeck system of indirect cooking which has only recently been introduced to North America. Dick Sandwell, resident manager of the Powell River Company, Ltd., told about "Some Dryer Experiments" on paper machines, a subject which brought forth considerable discussion. Relating more to the economic side, the paper on "Utilization of Sawmill Waste," by J. H. Jenkins of the Forest Products Laboratory Branch at the University of British Columbia, provided a windup for the morning session.

More Discussion

The Powell River meeting was characterized by a great deal more floor discussion than has been noted at the previous meetings of the Section. This feature came in for quite a bit of comment among the delegates in later discussing the merits of the convention, and was held forth as a sign that the Section members were becoming better acquainted and digging into their problems with an increasing earnestness.

The discussion following Mr. Lundberg's paper resolved itself mostly into inquiry into the specific construction and operation of the equipment used with the Brobeck system. In explanation Mr. Lundberg said that due to the rapid circulation of the cooking liquor thru the digester the development of a suitable non-clogging strainer had been a necessary prerequisite. Such a strainer, built of acid resisting materials, had been successfully developed. The fundamental principle of the strainer was the provision of a double set of orifices which would serve to equalize the suction action over a very large draining area.

Another difficulty that had long delayed the practical development of an indirect cooking system for sulphite was the inability to find a suitable metal which would withstand the excessive corrosive action of the sulphite liquor. Recent development of special alloy chrome nickel steels had permitted solution of the problem, Mr. Lundberg said.

Asked about the possibility of building up deposits on the inner surfaces of the circulator and heater lines Mr. Lundberg explained that by giving a mirror polish to the metals and by maintaining a very rapid circulation this difficulty had been eliminated. Another point brought out in this paper, of specific interest to the Pacific Coast mills, was that with the use of wet chips in the Western mills it had been found that the chips pack in more tightly than is the case where dry chips are used. The result is a noticeable increase in the digester yield.

Mr. Sandwell's paper revealed an inclination on the part of Powell River engineers not to be satisfied with average conditions. The studies he discussed showed how the company had been probling into work of the paper machine dryers, recording the temperatures on different parts of the face, making checks on the effect of condensate, and the conditions obtaining inside the dryer shall upon starting up the machine after the week end shut down.

The discussion following Mr. Sandwell's paper searched for more detail on the method of conducting the experiments and the manner of interpreting the results. Mr. Andrews drew a laugh by calling attention to the hours when the experiments were conducted, namely, between four and six a.m.

Mr. Jenkins illustrated his paper with slides and brought out some interesting figures on the amount of wood waste resulting from sawmill operations. The discussion went into the character and value of the different types of waste and into some of the methods of utilization that have been worked out. He pointed out that "place utility" is a large factor in the utilization of sawmill waste. For example, the diversion of any considerable quantities of sawmill waste for either fuel or pulp chips was almost entirely dependent upon the location of the sawmill with respect to potential markets.

A wealth of statistical data was presented with Mr. Jenkins' paper. It is well to point out here that Mr. Jenkins' paper at Powell River was in effect a summary of an exhaustive study which his branch of the Canadian Forest Products Laboratory has been carrying out over a period of many months. The study covered the forested regions of interior British Columbia as

NEW OFFICERS
Pacific Section of TAPPI

CHAIRMAN — Ralph Hansen, Weyerhaeuser Timber Company, Longview.

VICE-CHAIRMAN—Harry Andrews, Powell River Co. Ltd., Powell River.

VICE-CHAIRMAN—James P. V. Fagan, Puget Sound Pulp & Timber Co., Everett.

VICE-CHAIRMAN—Ray Schadt, Hawley Pulp & Paper Co., Oregon City.

SECRETARY-TREASURER—E. G. Drew, J. O. Ross Engineering Corp., 311 Lewis Building, Portland.

well as the Coast. The interior region has no pulp mills and a relatively sparse population, and due to the lack of waste outlets the percentage of utilization is much inferior to that shown by the Coast mills in the Douglas Fir-Western Hemlock region.

The Jenkins' paper also touched on fuel possibilities of waste, and the floor discussion developing showed the possibilities for further study of the subject. One

Four of the notables attending the Fall Meeting of TAPPI'S Pacific Section pose for a picture at Powell River Company's Lois River hydro-electric development. Left to right they are: R. Bell-Irving, resident mill manager of Powell River Company and national executive committeeman of TAPPI, Harry Andrews, vice-chairman of the Pacific Section, J. H. Jenkins of the Canadian Forest Products Laboratory Branch at Vancouver, B. C., and Dr. Jahn, in charge of the Forest Products Laboratory at the University of Idaho.

significant point brought out was that open storage of waste fuel, particularly sawdust, brought about excessively rapid deterioration.

A brief business session was held following the papers, the principle business of which was to elect officers for the coming year. Ralph Hansen, technical director, Weyerhaeuser Timber Company, Longview, Washington, was named chairman. A motion was made and carried to amend the Section's by-laws to permit the election of three vice-chairmen, these to be chosen according to geographical distribution. Harry Andrews was returned to office as vice-chairman for British Columbia; James P. V. "Jimmy" Fagan, assistant superintendent, Puget Sound Pulp & Timber Company, Everett, was named vice-chairman for the Puget Sound region; and Ray Schadt, Hawley Pulp & Paper Company, Oregon City, Oregon, was named vice-chairman for the Columbia River region and south. E. G. "Sid" Drew, Portland, was elected secretary-treasurer to succeed Myron Black, Inland Empire Paper Company, Millwood, Washington. Mr. Drew is the Pacific Coast representative of the J. O. Ross Engineering Company.

After luncheon cars were provided for transportation of visitors to the new hydro-electric development of the Powell River Company at Lois River. Later in the afternoon the time was given to a general inspection of the mill.

The evening banquet at Dwight Hall was a distinct success. The banqueteers burst forth with the spontaneous song which has so characterized and livened previous dinner sessions of the Section.

The evening session was not without its serious side, however. Dr. Jahn, head of the recently established Forest Products Laboratory at the University of Idaho, was introduced by Chairman Morden as the "gentleman from Moscow (Idaho)" who would talk on some things revolutionary in the development of products from wood cellulose other than paper. The address delved far into the subject. The chemical ramifications of nature's abundant material, cellulose, were brought into focus with the practical possibilities. One might well imagine, following the naming of rayons, cellophane, paints, plastics, and a host of other derivatives, that wood pulp, as a paper fibre, would some day be only a by product in the search for more valuable materials.

A high note of the evening was R. Bell-Irving's exposition on TAPPI, the character and purposes of the organization, its value to the industry and to the individual, and the opportunities for constructive work on the part of the Pacific Coast Section in particular. Mr. Bell-Irving's remarks are set forth more completely elsewhere in this issue.

Mr. Bell-Irving is resident mill manager of Powell River Company's huge 650-ton news print mill and all the sundry activities of townsite, etc., that go with it. He is a member of the company's board of directors, and a member of the executive committee of the national body of TAPPI.

In concluding his remarks Mr. Bell-Irving presented a gavel to the retiring chairman, C. W. Morden, with the following words:

"And now, Mr. Chairman, before I sit down I wish to take this opportunity as a member of the Executive Committee to assure the Pacific Coast Section that we, TAPPI, the parent body, are greatly interested in their progress; that we wish them every success, and that in further recognition of their establishment I have been asked, on behalf of our president, Mr. Krimmel, and of the Executive Committee, to present to your chairman this gavel, which we hope you will see fit to use as your official emblem of authority, and which we would ask you to pass on from each chairman to the succeeding chairman as he enters office."

The gavel was subsequently handed over in turn by Mr. Morden to the incoming chairman, Ralph Hansen, who replied with brief remarks that he would do his best and would ask full cooperation of all members.

The place and date of the next meeting are to be decided by the executive committee.

SEEN AND HEARD . . . . . at the Powell River meeting . . . . .

Harry Andrews doing a good job as convention chairman . . . Ray Smythe keeping his notorious whiskers in Powell River over Sunday for a game of golf . . . Al Hooker defaming British Columbia weather with a noisy umbrella. . . . Cliff Shirley saying little but listening a lot about sulphite . . . . Myron Black turning over his secretarial books to E. G. Drew . . . . Dr. Jahn outlining the enormous possibilities in the cellulose field for products other than paper . . . . Paul Giese trying to keep warm in the wind down at Lois River . . . . Ralph Reid keeping up his record of attending every meeting of the Pacific Section . . . . Brian Shera wondering where next he can apply his ideas on paper mill slime control . . . . Earl Thompson thinking in terms of chloramines . . . . C. W. Morden at the banquet banging a new gavel from the national office . . . . Frank Killien giving some of the boys a thrill in a ride down to Lois River . . . . Ernest Ketchum entertaining visitors in the new groundwood mill . . . . everybody admiring No. 7 machine and checking up on the steam economies . . . . H. W. Beecher pointing with justifiable pride to an exceptional boiler setting in the steam plant . . . . Ralph Hansen accepting the responsibilities of the new chairmanship in spite of feeling a bit of flu . . . . A. H. Lundberg reciting poetry . . . . G. S. Brazeau and Henry F. Bigelow helping swell the attendance record for the Weyerhaeuser Timber Company . . . . Dick Sandwell getting down to fine points on steam practice . . . . everybody having a good time at the banquet.

What is it all about?

The following is a digest of an address presented by R. Bell-Irving at the 1931 Fall meeting of the Pacific Section of TAPPI, held at Powell River, B. C., October 23d. The aims, purposes, and advantages of the Technical Association of the Pulp and Paper Industry, are discussed, with special emphasis on the relation of the Pacific Section and the individual. Mr. Bell-Irving is resident mill manager of Powell River Co., Ltd., and a director in the company.

MOST of us present this evening are members of TAPPI, and one would therefore at first thought imagine that it would be superfluous to explain the objects, the functions and the attainments of this organization. In view of some criticism, however, it would seem that some do not perhaps fully appreciate just exactly what it is all about.

In the first place, what are the objects of TAPPI? Without resorting to the detail contained in our by-laws and to put the matter very briefly I would say that the primary objects of TAPPI are firstly to stimulate and facilitate technical progress in the industry, and secondly, to promote the welfare of its members.

How does TAPPI propose the accomplishment of these objectives?

Primarily thru the exchange of ideas and experiences. This sounds very simple, but inasmuch as we live in widely separated districts means are necessary whereby the exchange of ideas and experiences can be carried out.

What are the means provided by TAPPI for this purpose?

First, we have the method of publication, which includes articles by members published in the trade journals, and subsequently consolidated under TAPPI'S own annual publication.

Second, we have also the method of circular inquiries which affords any individual member the privilege of writing to the parent organization in respect to any particular subject, whereupon the parent association circularizes all members and the resulting compilation of data is available to any member who may have contributed.

Personal Contact

From personal experience I am inclined to lay a great deal of stress on this method and for those who are genuinely interested in progress and in keeping their departments or their work strictly up to date it is my belief that this privilege is in itself well worth the full membership fee charged by TAPPI.

The third method of exchange is that of personal contact. Owing to the matter of location such a method naturally has very definite limitations, both in respect to duration and frequency.

The formation of the Pacific Coast Section has of course been due largely to the matter of location. In respect to the vast majority of Pacific Coast members it is obvious that their personal contact with the Eastern membership is not possible and since personal contact is unquestionably desirable, it is equally obvious that the next best thing to do is to provide a means whereby we can from time to time get together among ourselves.

With the formation of the Pacific Coast Section we have also been enabled thru greater personal contact and thru the working of our committees to concentrate on problems which are peculiarly our own and to bring these matters with greater force to the attention of the parent body.

We have perhaps not yet fully utilized or developed the additional possibilities afforded thru the formation of the Pacific Coast Section. On the contrary, I think that our committees might perhaps have shown a greater degree of activity and that for the time being at least it might perhaps be better to limit and concentrate the activities of our special committees largely to the consideration of problems which are peculiar to the Pacific Coast.

I would also point out that the formation of the Pacific Coast Section has in no way added to the difficulties nor limited the scope of the Coast member either in respect to fees payable or to privileges afforded by the parent body, while on the other hand the gathering which is present this evening in itself manifests that the formation of the Coast Section does possess certain advantages.

It is therefore my belief that for so long as TAPPI itself is worth while, the Pacific Coast Section will also be worth while for the Pacific Coast members.

Effective?

Has TAPPI been effective? I believe that a consideration of the standing of the technical man in the paper mill today as compared with his standing a very few years ago should at least serve as a very fair indication.

Even in the short time during which I have been personally connected with the paper industry the standing of the technical man in relation to the paper mill has advanced to a truly extraordinary degree.

Many paper mills only a few years ago, had no technical men at all. Few carried a technical staff of more than one or two. Today, it is a rare paper mill that does not have at least the nucleus of a technical department and there are a number of individual mills in which the strictly technical organization includes a staff in excess of twenty men.

In the light of the recent rapid progress in the industry which has been accomplished, both in respect to improvements in methods and quality of product, it must be conceded that these men have made themselves felt.

Incidentally, the introduction of these technical men into the mill organization has greatly stimulated the interest in technical subjects generally. Even ten years ago there were many superintendents and foremen who were inclined to view the technical man and the tech-

nical line of attack with considerable skepticism. Today such an attitude is decidedly the exception rather than the rule.

The functioning of TAPPI has done much to bring the work of the technical man before the eyes of the public, in other words, to advertise him, and in these days in order to sell anything it is necessary to advertise. The exchange of ideas and experiences has played an important part in the education and development of its technical members.

In the development of the individual technical man in the paper industry there are many ways already

R. BELL-IRVING
Mill Manager
and
Director
Powell River
Company, Ltd.

enumerated in which TAPPI can assist. However, it is quite certain that the mere act of admission to membership will not make a better man of anyone of us and the advantage which any individual member may derive from TAPPI will therefore depend entirely upon the degree to which he uses its privileges.

If any further argument is needed to demonstrate the effectiveness of TAPPI I need only point to the salaries paid to the technical paper man today in comparison with a few years ago, and to the many senior positions which are now held by men who made their entry into the paper industry via the technical route.

On the question of the propriety or right of TAPPI members to interchange their ideas. Who owns the idea? Many manufacturers are Corporate Members of TAPPI, and, further, there is no obligation on the part of any member of TAPPI to disclose any information derived consequent upon his position nor emphatically should he do so without the consent of his employer.

Canada's Big Meal Ticket

Canada's pulp and paper industry now has a capital invested of more then $714,000,000, thus placing it among the leading industries of the country, according to a special report issued by the Dominion Bureau of Statistics. At the end of last year $714,437,104 was tied up in the industry, of which amount $569,466,464 represented lands, buildings, etc.; $83,062,464 materials on hand or stocks in process, and $61,907,717 cash and accounts.

Quebec is well in the lead among the provinces with a capital invested of $363,928,749, followed by Ontario with $221,466,576; British Columbia, $53,405,098; and Nova Scotia, New Brunswick and Manitoba combined, $75,635,781.

New Zealand Switches Newsprint Patronage

British Columbia's newsprint industry is pressing for negotiation of a preferential tariff agreement with New Zealand in the hope of extending its markets in that dominion. Need for such an agreement has been emphasized by the recent retaliatory attitude of New Zealand publishers in recommending that a large share of the newsprint business be diverted from British Columbia and eastern Canada to the British Isles.

While the New Zealand publishers state that this recommendation is due to the fact that prosperity in Great Britain means prosperity in New Zealand and hence any action benefiting British business will have a good effect indirectly in New Zealand, the resentment of New Zealand interests against Canada is thinly disguised, and this resentment is due to Canada's ratification of a trade agreement with Australia to the exclusion of New Zealand.

The New Zealand interests feel that they have been discriminated against by Canada; hence the retaliation shown by New Zealand Newspaper Proprietors' Association in proposing that at least two-thirds of their newsprint orders be placed with manufacturers in Great Britain during the next twelve months.

Canada's newsprint trade with New Zealand stands to lose a million dollars annually as a result of this action. During the first nine months of the current year, Canada exported 229,319 hundredweight of newsprint to New Zealand, having a value of $662,519. This compared with 327,479 in the same period last year. Exports of newsprint to New Zealand during the calendar year 1930 totalled 433,406 hundredweight, valued at $1,264,219, and in the preceding year the figures were 461,018 hundredweight, valued at $1,432,815.

It is possible that this business will not be lost to the Canadian newsprint manufacturers if the two countries effect a new trade treaty.

Pacific Mills, Canadian subsidiary of Crown-Zellerbach, and Powell River Company, which has built up a large Australian business through Carmichael & Company, largest distributors of paper in Australasia, are the two Canadian companies chiefly to suffer. Executives of these companies hold out a hope that they can hold half the New Zealand market, the British Isles handling the rest.

Fibreboard Develops New Egg Case

Vernon Division of Fibreboard Products Inc., Vernon, California, have developed a most ingenious machine for making a new type of egg carton. The carton is fabricated so that the eggs do not touch the side of the carton, or the bottom of the crate or shelf on which the carton may be resting. This is due to the fact that legs are put on the bottom of the carton which raises it up off the crate or shelf, and these legs provide a certain resiliency that protects the eggs from breakage.

Officials of the plant state the new egg box which holds a dozen eggs was very well received by the trade. The machine which makes the boxes was entirely developed and built by the Vernon staff. A second machine has been installed at the Antioch plant. Both the egg box and the machine for making it are protected by patents.

The card from which the cartons are made is manufactured at the Vernon plant also — twenty point patent coated news blue back.

Willis H. Howes, vice-president, Knowlton Brothers, Watertown, N. Y., was a recent visitor in Los Angeles.

A New Method for

BEATING STOCK

This article describes a Pacific Coast development which discards the fundamentals of the batch system and puts the beater room on a continuous process basis.

BEATING stock, as a preliminary measure in the manufacture of paper, has for many years held quite religiously to the fundamental principles of using a huge tub, handling large batches at a time, employing heavy driving units, and beating for periods that could more conveniently be measured in hours rather than in minutes or seconds. In adherence to these principles have been found the chief objections of the paper mill men on the score of costs, flexibility, and uniformity.

Many refinements of the original man-powered paddle in a tub have been made in beating processes, but they have been mostly in the nature of improvements on existing fundamentals rather than radical departure from principle. The tempo in the paper industry today is for continuous operation, closer control, and generally better results. In light of this tempo the development of a new method of beating and a new type of beater is of unusual interest.

The new development has a purely Pacific Coast origin. The inventor has in effect set his beater on end to conserve space. He has discarded the principle of using large batches and has substituted a system wherein batches of a few pounds are beaten in a matter of seconds, the whole operation being automatic to produce what in all reality is a continuous operation.

Units in Operation

The technical and commercial development of the new beating method and the vertical type beater employing it have been carried out along conservative lines. It is only now, after the equipment has been in regular mill operation for more than a year, and after a number of the units have actually been placed in operation in Pacific Coast mills, that PACIFIC PULP AND PAPER INDUSTRY is privileged to present the first published account.

The inventor of the new method and machine is C. W. Morden, president of the Morden Machines Company, Portland and Seattle. Mr. Morden has had many years of practical experience in operation of Pacific Coast paper mills, but in the last few years has devoted his entire attention to the development of improved methods in paper mill practice, having concentrated his attention upon beater room problems. Mr. Morden is an active member of TAPPI, retiring in October as chairman of the Pacific Coast Section.

The new beating method is one wherein the stock is drawn off in small batches from a continuous supply and introduced under pressure into a recirculating pressure type beating cycle. Upon completion of the beating cycle a new batch is introduced, displacing its equivalent volume of beaten stock from the treating cycle and is then in turn recirculated and beaten under pressure, until subsequently displaced by the next incoming batch of raw stock. This new method of pressure type beating is called the "Stock-Maker Method" and the vertical type beater employing it is called a "Stock-Maker". Patents are allowed and pending covering this new development.

Reference to the accompanying illustration of a "Stock-Maker" will help to visualize the machine as an automatic, vertical type unit. The machine is built in standard size, having a daily capacity up to 25 tons, depending upon the nature of the stock and the amount of work to be done on it. The driving unit is a 100 h.p. vertical motor mounted on top and as an integral part of the machine. The motor is directly connected to the treating element of the machine located directly below it. Seen at the right in the illustration is the charger tank and the electrical unit which controls the automatic introducion of raw stock into the machine and the discharge of the beaten stock from the machine.

When the machine is in operation the charging tank fills up at a predetermined rate of flow with a batch of stock consisting of approximately 5 cubic feet of slush stock containing, normally, from 10 to 12 pounds of air dry fibre. Consistency of the stock is regulated by suitable devices prior to introduction to the charging tank. When the charging tank is filled the controls operate to pump the batch into the beater element.

Hydrostatic Pressure

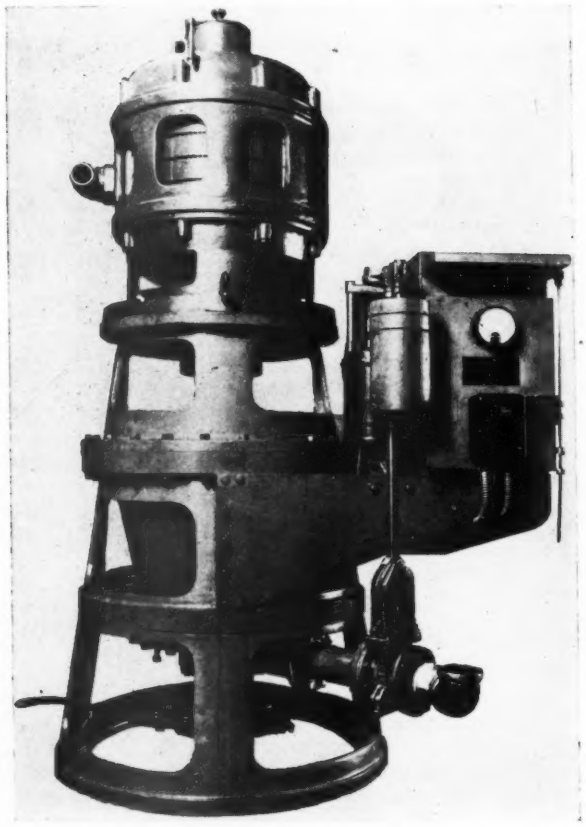
This beater element can best be described by comparison to a jordan mounted vertically with the larger dimensions upward, but differs in that the pumping action of the plug or rotor element is utilized to recirculate the stock very rapidly and very efficiently between the machine's beating surfaces. There is no introduction or escape of stock during the beating period and the action is to hold the stock under a relatively high hydrostatic pressure during the beating treatment. The recirculating type treatment under hydrostatic pressure has proven very effective in beating and hydrating the fibre being treated. From 20 to 30 seconds of beating of this type, with ordinary stock, has been found to be sufficient.

"Stock-Maker" units are now operating in Pacific Coast mills regularly, beating sulphite and soda pulp with very excellent results. Equally favorable results have been produced on kraft, although the experience data on this type are not as complete.

The design and method of operation of the machine are such as to provide the operator with three effective controls. These are, (1) quantity of stock introduced (size of batch); (2) time of beating treatment, and (3)

degree of treatment (secured by adjustment of the bed plate shell). The beater element action provides a quick and uniform circulation under hydrostatic pressure. A stock change is effected in five to six seconds.

The total power consumption for stock treatment is reduced with employment of the "Stock-Maker", and the claim of the manufacturer is a great improvement in quality of paper and a greater production, due to faster and more uniform running of the paper machine.



THE "STOCK-MAKER"

At the top is the driving motor (enclosed models also used) which drives, through a vertical shaft, the conical beating element below (which may be adjusted by the lever at the bottom). At the right is the charger tank and the electrical control which governs the periodic injection of raw stock and discharge of beaten stock in small batches.

Improved operations on the paper machine are directly effected by "Stock-Maker" beating in three ways: (1) by the improved quality of the beating of the furnish; (2) by the uniformity of the beating treatment due to "Stock-Maker's" continuous action, which is not subject to those practically unavoidable variations that occur from one batch to the next where beating is done in the ordinary tub beater; (3) to the quick responsiveness in the "Stock-Maker" treatment to any change purposely made in the setting of the machine in order to adjust it to some change in the pulp or some desired change in the beater quality of the stock on the paper machine itself.

As no large batches of stock are involved any change purposely made in the beating treatment of the stock on the "Stock-Maker" is reflected practically immediately in the quality of the stock. This is due to the continuous batch action, a decided contrast to the tub beater where two or three hours at a time are required to treat a single batch.

Another attractive possibility for the paper maker which the manufacturers of "Stock-Maker" point out is "proportioned, blended, continuous beating" wherein by the use of several "Stock-Maker" units, various proportions of the total furnish may be separately and differently treated. These different stocks may then be continuously blended in the beater chest. With the use of several units the degree of treatment may be varied. The constant introduction of small batches of ten or twelve pounds (dry weight) of fibre produces thorough blending. The old beater, obviously, does not lend itself to this type of beating where continuous operation and closer control of the beating are essential. This "proportioned, blended, continuous beating" method has been shown to have new and very interesting possibilities.

In constructing the new "Stock-Maker" on vertical lines the manufacturer had in mind minimizing one of the principal objections to the tub beater, that is the excessive requirements for floor space. This saving grace of the vertical machine in the matter of space economy permits the installation of additional beating capacity in present plants without enlargement of buildings, or in building new mills, eliminates the necessity for building an excessively large beater room. It is possible to install the requisite number of "Stock-Maker" units in the machine room, located just behind the paper machine, for example.

The radical departures in design and operating principles in the "Stock-Maker" are of interest to the paper industry as well as the potential operating efficiencies and advantages. As for actual installation it is emphasized by the manufacturers that with this new type equipment the stock may be given its beating treatment either at that point on the mill flow sheets where the old type beaters have ordinarily been used or the pulp may be pre-treated and hydrated at a point farther ahead in the mill flow sheet if this is desired.

Some Angles on Selling Pulp

"One result of the constant work on the part of superintendents and technical men in the West Coast mills to improve pulp quality and to learn more about their basic material has been to raise the reputation of the Western pulps in the Eastern markets." So writes a man who has close contact with the consuming mills in the Central states.

"Altho the equipment used to manufacture the Western pulps has not greatly changed in the last few years, the improvement in product is very noticeable. In many instances West Coast pulp has been sold at a premium above a good many foreign pulps. In very few cases now is it necessary to make a price differential, such as was usually the case only a few years ago."

"I think a great deal of good is being done by the growing practice of having the superintendents and technical men visit the Eastern paper mills. As yet, I don't think enough of it is being done. Personally, I am greatly in favor of sales by specification, and I have constantly fought for this principle with the many mills where I make contact. Many mills are today buying pulp on specification and I am confident that the number adopting the practice will steadily increase.

"Constant visits by superintendents and technical men will hasten this method of selling pulp because it is the mill man who has to work out the specifications of the consuming mill. The effect of these visits by technical men from the Western mills is to increase the willingness to ship by specification, and I feel that this is a very good influence both for the pulp and the paper mill."

Quick Freezing of Foods

is developing

New Markets for Paper

THE 1931 frozen packing operations of Pacific Northwest canners and packers of fruits and vegetables are completed, and although definite statistics on the pack will not be available for some time it is evident that the growth of packing in retail containers, started only three years ago, has continued with a consequent increase in the consumption of paper cups and cartons and fibreboard shipping cases.

The 1931 output of one operator alone, has probably exceeded the entire Pacific Northwest retail cold pack for any previous year. That is the quick-frozen pack for the Birdseye Packing Company put up at the Ray-Maling Company cannery at Hillsboro, Oregon. The 1931 program for this plant called for some 3,000,000 1-pound cartons of fruits and vegetables. Crop shortages required some curtailment of various items in this pack, but the total should still be well above that of the whole Pacific Northwest retail cold pack of 1930.

A New Business

The first retail cold packing of fruits on a commercial scale was in 1928 when various Pacific Northwest packers put up a total of 434,015 1-pound cartons—all strawberries—according to records published in Western Canner & Packer. In 1929 the packers put up 1,114,853 1-pound cartons of strawberries and added enough red raspberries, loganberries, pitted cherries and other fruits to make the total 1,241,145 cartons. The 1930 pack added other fruits and brought the total for that year up to 1,920,280 1-pound cartons. What the 1931 total will be can only be guessed, but the manager of the cold storage company that handles the bulk of the pack in Oregon said that it would probably be greater than that of 1930 as his firm was storing a good deal more.

All these totals are in addition to the quick-frozen pack of the Ray-Maling Company, previously mentioned.

Operations Enlarged

This quick freezing of fruits and vegetables for account of the Birdseye Packing Company, subsidiary of General Foods, began in 1929, when B. E. Maling, plant manager, visited the Birdseye operations in Gloucester, Mass., where fish and meats were being frozen. As a result of that visit a gigantic Birdseye belt-type quick freezing machine was shipped to the Ray-Maling plant and set up there.

That year a small quantity of fruits was packed. The next year operations were enlarged and several fruits and vegetables added. This year, as previously mentioned, the program was quite ambitious. However, proponents of quick freezing look on this pack of 1,500 tons as merely a starter for a tremendous fruit and vegetable packing industry. In fact they look for quick freezing to revolutionize food preservation and distribution, making fresh fruits and vegetables available throughout the country twelve months a year.

For the present at least appearances are that greatest development in retail cold packing will be along quick freezing lines, so it will be to the quick freezing operators that the paper industry will look for a rapidly increasing market.

After considerable experiment, the Birdseye Packing Company has decided on a standard size of carton for fruits and vegetables. This spruce board carton is three inches wide, two inches deep and five inches long, a paraffined container similar to that used for butter. It is lined with cellophane and after being filled is wrapped practically air-tight with waxed paper.

After the package is filled by hand or machine, according to the product (corn kernels and peas by hand, berries, spinach, asparagus, etc., by machine), it is wrapped by machine with waxed paper, and sealed by the same machine at the two ends and on the bottom. Then it is loaded with numerous other packages, all the same size, onto one of the lower belts of the long Birdseye freezing machine and in from 45 minutes to about 90 minutes, depending on the product and the temperature used, it emerges at the other end of the machine with its contents frozen solid. The machine operates at about 45 degrees below zero Fahrenheit.

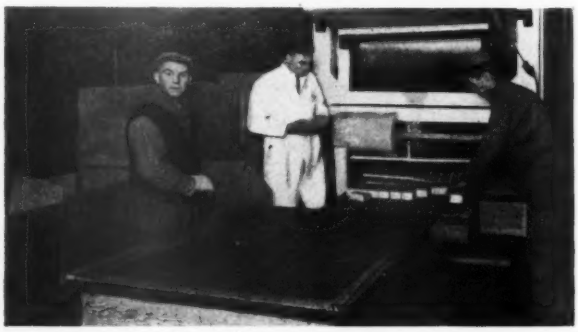
As the cartons come off the belt they are packed into fibreboard shipping cases, 18 cartons to a case. To

It is apparent in this view of the packing room in in a West Coast quick freezing plant that the paper container is playing an important part in getting the new method food to market in a safe and attractive package.

afford the maximum of protection against high outside temperatures there are five layers of board between the product and the outside atmosphere.

The cases are held in zero storage or lower and are shipped to distribution points in refrigerator cars and sold through retail outlets equipped with special low-temperature refrigeration. Upon development of more such outlets and education of the public depends the growth of this industry.

Fruits retail cold packed by what might for comparison be called slow freezing mostly go into 1-pound paraffined paper cups and cartons, though strenuous



Here are packaged foods coming from the quick freezing machine, in which the 45 degrees below zero temperature has frozen the carton's contents to brick-like hardness. Paper plays one more part on the way to market by providing durable fibre containers for the shipping cases.

efforts are being made to perfect cold packing in cans. The fact that the public has grown to expect canned goods to be non-perishable until the cans are opened has so far militated against the use of cans for this very perishable product. The paper containers used are of the tub or cup, and tall and cylinder styles. These containers are packed for shipping in fibreboard cases, 12 or 24 to a case.

In 1928 and 1929 there was some considerable repacking of berries in the East from 50-gallon barrels into 1-pound cartons, the 1929 pack being estimated as high as 3,000,000 cartons. But this was not particularly successful and, indeed, gave retail cold packing something of a black eye because the quality of the repacked fruit was not good as a rule and not enough care was taken to guard against high temperature damage.

However, improved barrel packs and perfection of repacking methods may bring about a revivification of this industry, as in some ways it will be more economical for the retail packaging to be done near the market and close to the time of marketing.

In any case the paper industry can look to the Pacific Northwest cold packers for a market that shows development possibilities that may to a great extent wrest the packaging of fruits and vegetables away from the wooden, can and glass container industries.

The Forest Laboratory's Program

At the recent two-day conference of the pulp and paper industrial advisory committee with the U. S. Forest Products Laboratory, at Madison, Wisconsin, the working program of the laboratory was presented by Director Carlile P. Winslow, C. E. Curran, and other staff members, and was illustrated with a wide selection of material, including specimens of wood and wood products, experimental apparatus, pulp and paper samples, models and photomicrographs, covering its work in cellulose research and related lines.

Members of the committee, representing the principal pulp and paper producing regions of the country, are Rex W. Hovey, production manager, Oxford Paper Co., Rumford, Me., chairman; A. Bankus, technical director, Crown Willamette Co., San Francisco; David L. Luke, Jr., production manager, West Virginia Pulp and Paper Co., New York; Allen Abrams, technical director, Marathon Paper Mills, Rothschild, Wis.; George S. Holmes, general manager, Brown Paper Mills Co., Monroe, La.

An early period of the meeting was given over to regional species problems, including pulping of hardwoods, diversification of pulp products from southern pines, and pulping of Douglas fir and other western species. Samples of experimental papers were shown, and a full explanation was made of the Laboratory's work in two-stage bleaching, modified kraft pulping, and newsprint investigations.

Among features of fundamental work illustrated was a newly developed differential draw meter, used for speed control in the critical study of the 70 or more paper machine operating variables now under way. Late research on the relation of fiber characteristics to sheet quality, part of which has been conducted under an A. P. P. A. fellowship, was also reported.

Results of recent physical and chemical research bearing on the improved utilization of wood fibers were described and illustrated by a large group of samples, models, and pictures. These included a light-colored low-yield lignin considered the purest yet obtained, a series of condensation products developed from wood waste, and mechanical models of the wood fiber and of the bordered pits controlling liquid flow between fibers. Also shown were photomicrographs taken in three planes by which wood fibers were magnified to a length of six feet and minute details made visible, and lantern slides showing the sleeve-like layered structure of the cellulose fiber and smaller details down to the limits of microscopic visibility. This was supplemented by an account of the sub-microscopic structure of wood as determined by X-rays and other means, and the effect of beating on minute fiber characteristics was explained.

A feature of interest was the report of Professors E. B. Fred and W. H. Peterson, of the University of Wisconsin, who described research on the decomposition of fibrous materials into other useful products by pure cultures of bacteria and suggested possibilities in the conversion of wood by this means.

A private session of the committee was held on the second day of the meeting, after general discussion of plans and findings. The committee had occasion during its visit to inspect the present quarters and equipment of the Laboratory and to view the site of the new $900,000 building, where construction is now well under way.

Rayon Pulp For Loggers' Menu Cards

Those hardboiled men of the woods who attended the annual banquet of the 22nd session of the Pacific Logging Congress, held this year at Spokane, were provided with first hand evidence that Western hemlock logs have great utility in other things than lumber. The menu and program for the evening were printed on a sheet of Alpha Pulp, manufactured from 100% Pacific Coast Hemlock by the Rainier Pulp & Paper Company, of Shelton, Washington.

Bellingham Adds A Benedict

Word drifts down from the North that P. J. "Pete" Onkels, mill manager of the Pacific Coast Paper Mills at Bellingham, Washington, has taken unto himself a wife.

There are problems in

LUBRICATION

of paper mill machinery

Some points are here set out.

By S. H. JONES
E. D. Jones & Sons Company

AS manufacturers of paper making machinery our primary interest is in seeing that our equipment operates economically and smoothly. Of course, satisfactory performance of the entire machine depends upon perfect functioning of each component part. Therefore, when a problem develops in any specific part we must be prepared to give close attention to the solution of the difficulty.

Take the question of jordan bearings. In using anti-friction bearings on jordans there is a tendency to heat up when carrying too much lubricant, or even when the bearing is running fully lubricated. What often happens in actual operation is that those in charge, when they notice a bearing is running hot, will immediately do the most natural thing, that is, pour more lubricant on the bearing to overcome the heating. It has been our experience that this is exactly the wrong thing to do, as the bearings heat up even more.

The problem is one of improper distribution of lubricants to the bearings, or the use of improper type of lubricant, or a combination of both. Where special lubrication fittings are used, that is, the type wherein the lubricant is injected and held under pressure, there can be little check on the amount of lubricant going to the bearing.

In our own practice, because of this uncertainty of lubrication distribution, we have felt that the pressure method is less desirable than the use of straight oil.

In ordinary practice the grease is kept in the pressure fittings under force in order to give the under side of the bearings better lubrication. This means that the bearing must be kept filled with grease. But this leads to the same condition—heated bearings.

In our own practice we now prefer to overcome the problem of heated bearings by using an oil cup placed in a position on the bearing which eliminates any possibility of allowing it to become over-lubricated, or the possibility of men operating the jordans to fill the bearings full of oil. The main idea for successful operation in lubricating jordan anti-friction bearings is to see that they get neither too little oil nor too much oil. The oil cup takes care of itself and eliminates much of the human element.

As a practical example, recently we got a call from an eastern fine writing paper mill which had within the past few months changed over from babbitted type bearings to the anti-friction bearings. It was not very long before we had a call for our service man to come up to the mill and see what was causing the bearings to heat. In this case they were running fairly close to the danger line, 140° to 150° F.

This mill was using 600-W regular cylinder oil, but same was flying out of the bearing. From our previous experience on bearing troubles we felt that the case was a matter of over lubrication. It was an easy matter for our service man to drain the oil entirely and replace with a special bearing grease which is very thin, in fact almost a non-fluid oil. The difficulty was immediately overcome and there has been no return of the trouble.

As a matter of interest, these bearings were not equipped with the oil cup on the bearing in such a position that it would limit the amount of oil that could be put in.

Recently there has been some dsicussion of adopting a centralized system of pressure lubrication whereby the lubricant could be forced thru to the equipment in various parts of the paper mill. When this idea was proposed to me some time ago I must admit that it sounded preposterous and virtually a superhuman task. Recent inquiry, however, in industries other than paper has demonstrated that advances are being made in centralized lubrication.

For example, a machine tool industry uses such a system, whereby they have a central source of supply, with pipes running to the different bearings to be lubricated. When machinery is periodically in need of lubrication the pressure builds up to the necessary number of pounds and at the connection of the feed pipe of the bearing itself a patented ball and check fitting operates to permit the exact amount of lubricant to enter the bearing for most efficient operation. The patented fitting, which operates somewhat as a traffic officer on a highway, is of course the key to this problem of equitable distribution.

In the paper industry as well as other industries we are still far from agreement between individuals and organizations on the absolutely right practice in the application and lubrication of bearings. Some there will be who do not agree with methods found by this company to be suitable. But where there are many people with many different ideas, all of which are valuable in ultimately arriving at the absolutely correct solution, then we will have progress. Our own company feels that we are doing considerable study and experiment on bearing operation of different types of paper mill machinery.

Pioneers in Paper

FROM many sections and from various industries have come to Blake, Moffitt & Towne, Pacific Coast paper merchants, words of commendation and congratulation on the book "Pioneers in Paper" issued recently to tell in its own romantic way the stirring history of the firm on its seventy-fifth anniversary —its Diamond Jubilee.

That the book built up pride and loyalty among the firm's employes is evidenced by the fact that all of the personnel of the Tacoma division, headed by F. E. Jeffries, manager, wrote. "We are glad to be a part of an institution that has nothing in its history, past or present, that we cannot point to with pride and satisfaction."

From the trade in general has come praise, of which the following from John Henry Nash, San Francisco printing craftsman of world-wide recognition, is typical: "I am delighted to add this volume to my typographic library and wish to offer to you my congratulations on the occasion of your Diamond Jubilee."

Wrote Robert E. Cowan of the library of William A. Clark, Jr., Los Angeles: "It is a worthy contribution to my California library and I have found its contents to be of much interest." C. E. Persons, San Francisco, promotion director of the Standard Oil Co., said, "I really do not know how it could have been done better. Whoever wrote it has done a lovely piece of work and, I think, has produced a document of real historic interest."

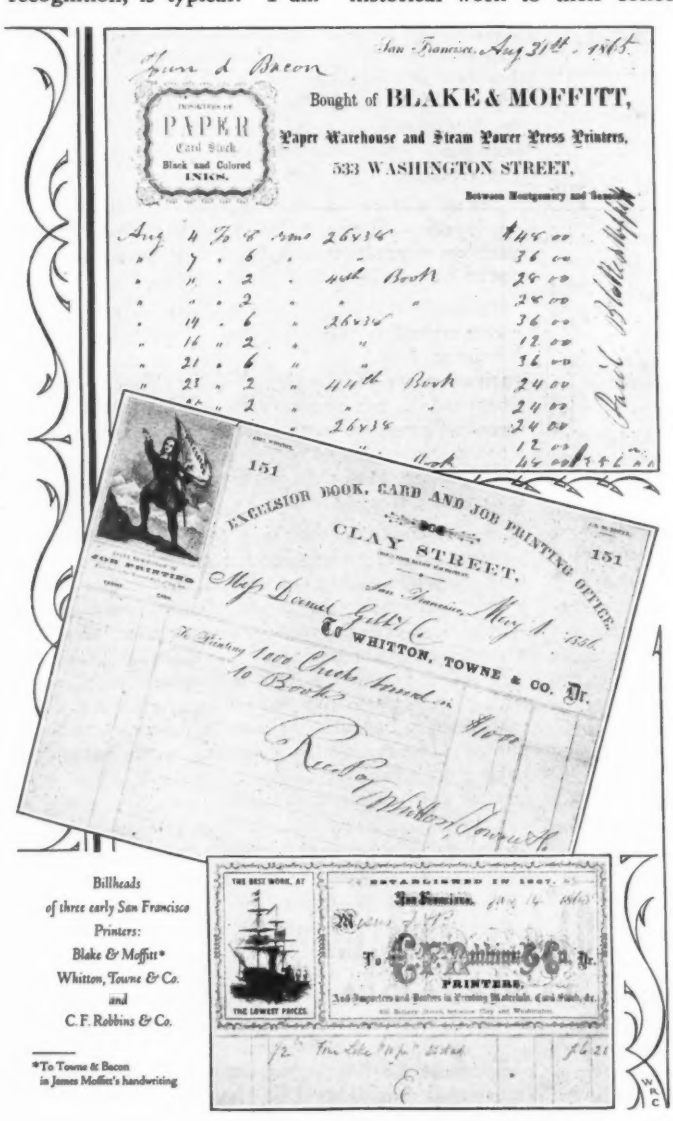
The California Historical Society said they were pleased to add the historical work to their collection. Among the scores of other letters received were those from Byron Weston Co., Dalton, Mass.; John S. McGroarty, San Gabriel, California historian and playwright; Charles A. Gordon, vice-president of the Oxford Paper Co., New York; Robert Rea, librarian of the San Francisco Public Library; Edward F. O'Day, San Francisco writer and advertising man; Ray Wight of Crane & Co., Dalton, Mass., and John S. Pinney of the American Type Founders Co.

Arthur W. Towne of the third generation of his family in the company compiled the book and gave a most readable and dependable account of the early days in the printing and paper industry of the coast.

Starting its tale back in the time of the clipper ships and the Washington hand presses and the early, golden days of San Francisco history, "Pioneers in Paper" tells, in its opening chapters of the shortage of paper in California and quotes the old "Daily Alta California", an early newspaper, as saying it would be printed on paper of reduced size "until the arrival of clippers now overdue" with new stocks. On Saturday, Aug. 15, 1846, when the first newspaper issued on the Pacific Coast — "The Californian" — published at Monterey by the Rev. Walter Colton and Robert Semple, mentioned the "main scratch for paper, none being found except what is used to envelope the tobacco of the segar smoked here by the natives."

"Pioneers in Paper" carries its readers on down California's history through the lives of three men, Francis Blake, James Moffitt and James W. Towne, printers who came west by various routes and eventually met in San Francisco to join forces to form Blake, Moffitt & Towne. Francis Blake worked on the old "Placer Times and Transcript", and in 1852 brought west an Adams press and started a printing shop in San Francisco.

In 1855 he was joined by James Moffitt and the firm became Blake & Moffitt. One of their competitors was the firm of Whitton, Towne & Co., and later Towne & Bacon, from which came James W. Towne eventually to make up the present firm. These firms dealt in paper, handled printing work, published books and Whitton, Towne & Co. for a time printed "The Bulletin", a daily newspaper. In 1858 James W. Towne headed a group which established



Billheads of three early San Francisco Printers: Blake & Moffitt* Whitton, Towne & Co. and C. F. Robbins & Co.

*To Towne & Bacon in James Moffitt's handwriting

on the Pacific Coast

"The Victoria Gazette" during the Fraser River boom in British Columbia.

"Although at first printers bought chiefly for their own requirements," "Pioneers in Paper" says, "it was not long before they were buying paper, as well as ink and supplies from one another. It was distinctly a seller's market and in the striving between competitors to secure desirable sources of supply, no records are more interesting and more amusing than the old files showing Blake & Moffitt and Towne & Bacon eagerly seeking the agency of the same eastern mill."

Blake & Moffitt first advertised themselves as paper merchants in 1863 and Towne & Bacon changed to the paper business in 1865. In 1868 the firms merged to form Blake, Robbins & Co., a paper house and the immediate forerunner of Blake, Moffitt & Towne. In 1884 Charles F. Robbins died and the firm took on the name it carries today. Francis Blake was president, James Moffitt vice-president and Arthur G. Towne, eldest son of the founder, secretary-treasurer.

Upon Mr. Blake's death in 1888, James Moffitt became president and held the position eighteen years. It was during this period that the Los Angeles division was opened and the founder's son, James K. Moffitt, became its first manager. A few years later he entered the banking business in San Francisco and was succeeded in Los Angeles by Ernest H. Greppin.

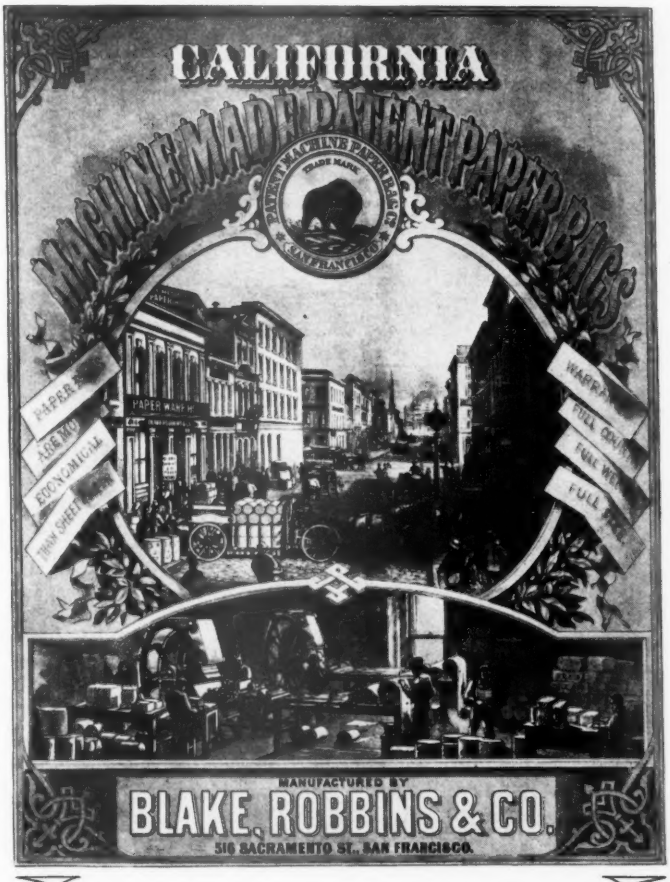
The turn of the century found Blake, Moffitt & Towne represented in the four leading Pacific Coast cities. In Seattle they had formed the American Paper Co. and Otto W. Mielke became manager there in 1908. He is now in charge of the firm's interests in the entire Pacific Northwest. In 1910 Frank E. Jeffries was sent from Seattle to handle a new branch in Tacoma, the Tacoma Paper & Stationery Co. In Portland the firm owned Blake, McFall & Co. In 1922 Mr. Greppin died in Los Angeles and F. M. Couch, who had entered the Los Angeles organization in 1909, became manager in the south and in 1923 a member of the board of directors and a vice-president.

In 1909 the president, James Moffitt, died and was succeeded by Arthur G. Towne, who continued in that office until a few years ago when ill health forced his retirement. James K. Moffitt was then elected president. In addition to this office, Mr. Moffitt is chairman of the executive committee of the Crocker First National Bank of San Francisco and a regent of the University of California.

William B. Maxwell, present secretary-treasurer of the corporation, has been in its service 46 years. Ed A. Doran, now vice-president and in charge of purchases and who handles sales for the Northern California Division, formerly was connected with the Los Angeles Division and was head of Blake, Moffitt & Towne of Arizona. The first vice-president today is James W. Towne, elder son of Arthur G. Towne and a representative of the first generation.

And so, step by step, growing each year a little larger, Blake, Moffitt & Towne has come to be one of the nation's leading paper houses, with seventeen divisions distributing eastern and western papers to the entire Pacific slope.

"Seventy-five years is a long period to test the effectiveness of an organization," "Pioneers in Paper" says in closing. "That Blake, Moffitt & Towne has succeeded over the years and through all manner of changing conditions is due more than anything else to its avowed policy, expressed more than 30 years ago, 'to deal liberally and fairly with all its patrons, to sell only reliable papers and to ignore all irregular goods'."



"In 1868 Blake, Robbins & Company was formed. It was strictly a paper house, the immediate forerunner of Blake, Moffitt & Towne."

"In 1880 Blake, Robbins & Company determined to enter the field of bag manufacturing, and installed a complete plant."

Taken from an old lithograph showing offices and warehouse of Blake, Robbins & Company located at 516 Sacramento Street

Interior of bag factory in lower panel

SOLVENT SIZING

A description of a revolutionary new method of sizing paper

By OGDEN MINTON

SOLVENT sizing* is a new method of sizing paper. This title has been given to this method of sizing as the size is actually dissolved in a solvent.

For many years paper makers have used rosin to size paper, but for the sake of those who are not entirely familiar with the subject a very brief description of the old method of rosin sizing will be given first and a few points emphasized in order to point out the difference in the two methods of sizing and to explain more fully the advantages to be obtained from solvent sizing and also to explain a few points about the old method of rosin sizing, which the writer feels may not be entirely understood.

On February 17, 1931, the writer submitted a paper at the meeting of the Technical Association of the Pulp & Paper Industry in New York City. The title of that paper was, "At What Temperature Should Paper Be Dried?" Some of the following will necessarily be a repetition of the text from that paper. Prior to writing that paper the writer conducted a long series of experiments in drying paper as various temperatures and testing the paper so dried for Mullen, tensile, fold, tear, etc. The writer has for many years advocated drying paper at low temperatures and has known that paper dried at low temperature in a vacuum was stronger and better paper. High temperature is injurious to all paper making fibres and low temperature drying without the presence of air (oxygen) has proven its advantages long ago.

In the earliest days of the vacuum dryer it was learned that if a heavily rosin sized sheet of paper was dried in a vacuum dryer at an evaporating temperature of 100° F. (28″ vacuum), the paper came out much like blotting paper and had no semblance of being sized. It was also learned that if this same paper was rewet and redried at 185° F., the paper was then highly sized. It was immediately seen that the temperature of drying was important. It was soon proved that the drying temperature had to be high enough to melt or sinter the rosin and this temperature was found to be 175° F., but varied with different grades of rosin. It was also discovered that the paper after being dried at low temperatures was only slightly helped if it was then subjected to high temperature; in other words, it was necessary to have the temperature high while drying.

If high temperature is necessary to sinter the rosin, the rosin must be in crystalline form and the high temperature sinters or fluxes the rosin from the crystalline to a film form. It was a fortunate coincident that the temperature at which rosin fluxes happens to be at just about the temperature at which paper is dried on the old type of paper machine dryer.

*Patents covering Solvent Sizing are being applied for.

As a sizing material rosin has much to recommend it. It is not soluble in water, which is of prime importance. It is not too expensive. It can be obtained in almost water-white color for use in white papers. It can be made to form a very perfect film of minute thickness, has considerable strength and is not over brittle or over sticky at ordinary temperatures. Its low cost has made it available for paper sizing perhaps more than its other characteristics. There are other resins, gums, and substances that are much stronger and better, but their high cost as a rule make them prohibitive.

The writer has often asked paper makers the question, "Does or does not rosin sizing increase the strength of paper?" To this question he has had all sorts of answers, some in the affirmative and some in the negative, and a lot of neutral answers. From the information heretofore available to the paper maker rosin sizing may do either, but in the majority of cases it hurts the strength of paper. However, the paper maker has not in the past had sufficient information to answer this question. His answers have had to be based on his past experience and his past experience has been based entirely on paper that was dried at temperatures varying from about 170° F. to 190° F. A very small band of temperatures. He had no knowledge of what happens to paper dried at temperatures varying, say, from 80° to 170° F.

Old Method of Rosin Sizing

Heretofore in making rosin sized paper, the paper maker has taken rosin and cooked it with varying percentages of caustic soda or soda ash to obtain a size of various percentages of so-called free rosin. Soda Ash chemically called Sodium Carbonate Na_2CO_3 has been used in proportions as shown in the table below.

Rosin	Na_2CO_3	% Free Rosin
100	16	20 to 35
100	14	30 to 35
100	12	35 to 40
100	10	40 to 45
100	9	45 to 50
100	8	50 to 55

This mixture, with water added, is sometimes called rosin soap and sometimes rosin milk. This is put in the beater with the stock in quantities sufficient to give the desired per cent of rosin in the paper. Actually, a larger amount is added to the beater than is theoretically necessary as the retention on the wire of the paper machine, depending on the stock, may vary from, say, 90% to as low as 60%, Alum (aluminum sulphate) $Al_2(SO_4)_3$ is then added to the beater to precipitate the rosin on the paper making fibres. Here again more alum is added than is theoretically needed in order to

insure as high a rosin retention as possible. The table below gives a rough idea of how much alum is actually used:

% Free Rosin Size	Lbs. Alum for 10 lbs. of Rosin
35 to 40	15
20 to 25	20
Neutral	30

No two paper makers seem to agree as to how to cook the rosin, not as to how much alum should be added to the beater. Prepared rosin size is used by many mills and added with water direct to the beaters without cooking. Also various "systems" of making rosin size have been put on the market, but all of these depend on the above-mentioned principle of making size. All of the chemical reactions that take place with rosin and caustic soda are not entirely known. Rosin (abietic acid) is not a pure chemical, but is a very complicated organic substance. The reaction of the caustic soda and the rosin is probably, however, a pure soaponification process. When alum is added in the beater several chemical reactions take place and rosin and aluminum resinates are deposited on the fibres in a crystalline form. Also the alum reacts with the water to form sulphuric acid and aluminum hydroxide as shown by the formula:

$$Al_2(SO_4)_3 + 6H_2O = 3\,H_2SO_4 + 2\,Al(OH)_3$$

This is a serious thing to have happen and results in the paper stock going on to the wire of the paper machine with a pH value (degree of acidity), of from 3.5 to 6.0, depending on the quantities of rosin, caustic soda, and alum that the paper maker may happen to use.

Degeneration by Acid

While this may appear as a very dilute acid condition, nevertheless when the paper dries the water evaporates and the acid becomes stronger and stronger and tends to forever and ever degenerate the paper, as this action continues even after the paper is dry, and we have paper that lacks permanence. This was very prominently brought to the attention of the writer in the drying of bleached sulphite pulp in a vacuum dryer. The pulp was treated with acid to kill the chlorine used in bleaching and if the pulp was not carefully washed absolutely acid free, the finished pulp was found to be way down in strength. Here we have a condition where the pulp maker takes every care to make his pulp acid-free to preserve fibre strength and the paper maker deliberately adds alum, thus acid, to obtain sizing—and the paper maker does not know whether this hurts the strength of his paper or not. Why? For the simple reason that the rosin in his sizing adds strength to the paper and the acid from the alum-water action degenerates it. Depending on the proportions of rosin, caustic soda, and alum used the two to a greater or less extent offset one another, but as will be shown later this is only true at the temperatures at which the paper maker dries his paper. Such a condition can and does occur every day. Usually the paper is not as strong when rosin sized, but it is entirely possible for the rosin sizing to be so carried out that if the paper is dried at, say, 180° F., it may be stronger or weaker than unsized paper dried at the same temperature.

Due to the fact that the writer and his associates were studying the effects of low drying temperatures these facs were discovered. If our efforts had been confined to the old limits of 170° F. to 190° F. it is doubtful if we would have ever appreciated what was taking place. A study of the curves at the lower temperature range, however, makes it very evident what takes place. Acid plainly hurts the strength of the paper while rosin helps the strength of paper if dried in the higher temperature range. Therefore, the problem was to omit the acid and add the rosin. But how could this be done? Without the use of alum could the rosin be precipitated on the fibres? Why precipitate it, for this means that it precipitates in crystalline form and must be heated to flux it to a film form. Could it be put in the paper in FILM form and dried at low temperature?

Ogden Minton of Greenwich, Connecticut, scarcely needs introduction to the pulp and paper industry. His inventive turn of mind has won for him in recent years special recognition for distinctive and meritorious contribution to the industry in development of the vacuum dryer.

The process to accomplish this we have called "Solvent Sizing".

Solvent Sizing

While rosin is insoluble in water it is readily soluble in any one of many solvents such as alcohol, turpentine, benzol, toluol, carbon tetrachloride, ethylene dichloride and others, and when dissolved in any of these solvents it forms a clear solution and the rosin particles become practically molecular in size. If rosin is dissolved in any of these solvents and the solution is poured on a piece of glass the solvent soon evaporates and leaves the rosin in a very perfect film. This film is of a vitreous, mucilaginous character, as distinguished from a crystalline mass. It is fully transparent and if the solution is very weak will form a very thin film which can not be detected with the eye, but can be scraped up with a razor blade and will show finger prints. If some color is added that is soluble in the solvent the film can be made apparent to the eye. The film is pure, undiluted rosin as the solvent entirely evaporates.

To size paper with rosin dissolved in a solvent it is merely necessary to pass dry, unsized paper through the solution and then through a pair of press rolls to remove the excess solution and then dry the paper. The solution very quickly penetrates clear through the unsized paper and carries the rosin in almost molecular form all through the paper. When the paper dries the solvent evaporates out of the paper, leaving the rosin in a perfect film. No acid is used and the solvent entirely disappears from the paper, leaving only rosin. The action of the solvent is merely that of a vehicle to carry the rosin into the paper. To obtain paper of the greatest strength it is merely necessary to make unsized paper of the greatest strength and then solvent size the paper and vacuum dry it at

low temperature. In other words, make paper without the use of acid, dry it at a low temperature, solvent size it and again dry it at low temperature. Thus the paper is not degenerated by the acid nor injured by high drying temperature and will have **no residual acid to harm its permanence,** but will have the added strength given to it by the rosin. Because of the fact that **the rosin is deposited on the fibres in a very perfect film** the paper will be found to be far better sized when an equal amount of rosin than by the old process where the crystalline rosin and aluminum resinates have to be fluxed or sintered to form a film which never can be a perfect film. Solvent sized paper is sized with 100% free rosin, whereas rosin sized paper as accomplished by the old method is sized with only a small percentage of free rosin and the rest of the sizing is accomplished by combined rosin or aluminum resinates of one kind or another.

Also because solvent sized paper is sized with a pure and perfect rosin film, and also because the fibres themselves have not been subjected to high temperatures and therefore are not brittle, the resulting paper folds well and retains its tear to a very great extent. It lacks the brittleness so often found in highly rosin sized paper. It is often easily possible to increase the Mullen test over 30% by solvent sizing, thus producing paper of super strength, and paper that retains its fold and tear to a very great extent. Solvent sized paper, naturally, stands an erasure test much better, due to the perfect rosin film binding the mass of fibres so perfectly in a solid mass.

Colored Paper

To produce colored paper it is merely necessary to mix with the solvent a color that is soluble in that solvent, add the rosin and white paper is both colored and sized in the one operation. Colors which are soluble in the solvents are as a rule non-soluble in water and therefore make a coloring agent that will not run when the paper gets wet or damp.

Cost

The cost of rosin is less than the cost of the paper furnish and the paper maker can use even high percentages of rosin without running up the cost of his paper. Paper containing as much as 25% of rosin has been experimentally made by solvent sizing. This, of course, is not recommended, but is mentioned to show that it can be done. As a rule a percentage of rosin is selected which produces maximum strength with a minimum of rosin. This varies for different furnishes of paper. Or the percentage of rosin may be determined by the degree of sizing desired. No caustic soda or alum is used and their cost is saved. As will be shown later the solvent is almost 100% recovered and used over and over again. Rosin retention is 100%. The cost of solvent sizing with rosin in every case can be shown to be considerably less than the cost of rosin sizing by the old process and it should be remembered that super sized paper of super strength is produced.

Experimentation has indicated that solvent sizing has almost endless possibilities, such as making exceptionally transparent glassine papers, imparting waterproofing qualities, coating papers on the machine, and greatly increasing strength tests.

All of the desirable solvents are expensive and the cost of this process would be prohibitive unless the solvent can be effectively and cheaply recovered. This process being carried out in a vacuum dryer, the solvent in vapor form necessarily passes directly to the condenser where some of it is recovered and the rest is recovered in a simple recovery system following the vacuum pump. The recovered solvent is then mixed with fresh rosin and is used over and over again. As mentioned before, its function is merely to act as a vehicle to take the rosin into the paper, and form a perfect rosin film throughout the sheet of paper.

Solvents

In the course of experimental work with various solvents, tests were made by immersing unsized paper in the solvents, drying and testing the samples, both before and after immersion, and drying to see the effect produced. Alcohol was found to reduce the strength of the paper and was discovered to be due to the fact that alcohol is miscible (mixable) with water, and probably mixed with the water of hydration in the stock and upon evaporation destroyed some of the bonding of the fibres. Any solvent that is not miscible with water was found to in no way affect the sheet of paper. While these solvents penetrate and permeate the sheet of paper they do not seem to "wet" it the way water does. The paper while still wet with solvent does not lose its tear, strength or stiffness. It does not become limp as it does when wet with water. In other words, the bonding of the fibres does not seem to be affected, yet the rosin permeates the sheet and even on heavy board the sheet will be just as well sized on one side as on the other, as will also the center. Color added to the solvent likewise permeates the entire sheet. Machine glazed paper, solvent sized, retains its smooth surface and when redried this surface appears to be just as good as before being sized. Paper solvent sized and hung in the air to dry will not cockle, but when dried will be found to have the exact same finish as before solvent sized and be just as flat.

Almost all of the desirable solvents have low boiling points and low number of B. T. U.'s of latent heat, making for rapid, easy evaporation and likewise easy recovery. Carbon tetrachloride, for instance, boils at atmospheric pressure at about 170° F. and at 27" vacuum at about 60° F. Its latent heat is approximately 84 B. T. U.'s as against water at, roughly, 1,000 B. T. U.'s. Most papers absorb, roughly 15 to 20% of the solvent by weight, and the quantity of heat to evaporate this amount of solvent is very small indeed when compared to evaporating 200% of water from the sheet of paper coming from the wet end of the paper machine. This actually figures out at about 1/100th as much steam required to evaporate the solvent as to dry the water out of the paper.

The per cent of rosin left in the sheet of paper can readily be controlled by the strength of the rosin solution. For instance, a solution of 20% rosin and 80% ethylene dichloride will put twice as much rosin in the sheet of paper as a similar solution containing only 10% rosin and 90% ethylene dichloride.

A solvent should be selected that has little fire risk and leaves no residual odor in the paper. Two such solvents are carbon tetrachloride and ethylene dichloride. The last of these has almost perfect characteristics for solvent sizing and the cost is not too high.

There are many non-water soluble resins, gums, etc., available besides rosin. Some of these form much stronger films and will add still greater strength to the paper. These are all soluble in some solvent and can

be used in place of rosin. Rubber, celluloid, all waxes, paraffine, pitch, tar, and many other substances are all available and suitable for solvent sizing. Rosin, however, because of its low cost and other valuable characteristics will probably be used in the large majority of cases.

Method

There are two methods of solvent sizing paper available to the paper maker. First, and much the best, is to make unsized paper on the wet end of the paper machine and then pass the paper directly into a vacuum dryer, dry the paper at low temperature to whatever dryness desired in the final sheet of paper, subject the paper to either a shower or bath of rosin dissolved in a solvent, then pass the paper through a pair of rolls, then evaporate out the solvent on a few additional dryers and then pass the paper out of the vacuum dryer to a calender or reel. If desirable, sweat dryers can be placed inside the vacuum dryer or just outside and before the calender stack. Paper made in this way will be the strongest and best possible paper.

The other method is to make unsized paper dried on old type paper machine dryers and then pass this paper into a vacuum dryer, solvent size it, pass it through a pair of press rolls, then evaporate out the solvent on a few dryers and pass the paper out to sweat dryers, calender stack or reel. In this case some loss of strength will occur in the sheet of paper, due to originally drying it as high temperature. Strength may fall off more or less rapidly for different grades of paper stock. As a rule the higher the grade the less this curve falls off and the lower the grade the more rapidly it falls off.

Theory of Sizing Strength

In original research work the writer experimented with various forms of wax sizing. Many of these produced very good sizing, but in every case were found to lower the strength of the paper. Waxes, paraffine, and many similar substances are soluble in suitable solvents and can be put in paper by means of solvent sizing. Just how rosin strengthens a sheet of paper is a subject still open to debate. The writer believes that the rosin forms a film which of itself has strength, but he is also convinced that the rosin gets between the fibres of the paper and acts as a deterent to their sliding over one another and thus tends to increase the bonding strength. He is convinced that paper is never made with the full strength of the fibres and that when paper is broken in a tensile tester the result does not equal the full fibre strength, but is lower because some of the fibres slip over one another rather than actually break. Waxes and other oily material he feels lubricate the fibres and, while they give good sizing, they allow the fibres to more readily slip over one another and thus make paper show a weak Mullen and tensile test. Careful microscopic study of torn paper seems to confirm this theory. A heavily rosin sized sheet will show a larger percentage of torn fibres than a wax sized sheet. In fact this can be plainly seen with the naked eye when comparing unsized paper and heavily rosin sized paper.

Apparatus

Little or no apparatus is necessary to dissolve rosin in a solvent. Rosin merely has to be put into the solvent which can be placed in a tank of any kind. No skill is required. There is no cooking to be done. No heat has to be used and very little stirring or agitation is necessary. The process is hastened if the rosin is powdered well before putting it into the solvent. The strength of the solution can be read by means of a hydrometer and if there is too much rosin it is only necessary to add more solvent or vice-versa. A vacuum dryer to evaporate the solvent is a very small piece of equipment and takes very little floor space. The solvent recovery system is simple.

Solvent sizing is bound to produce more uniform results, as it is not dependent on any chemical reaction which in turn is often effected by the quality of the chemicals, quality of water available, and temperature conditions. Accurate percentage of rosin in the finished sheet of paper is simple to maintain. No great amount of intelligence is necessary and the size maker may be a laborer and his work checked by hydrometer readings on the paper machine. There is no fussy drying temperature to be maintained. Practically all the variables of the old system of rosin sizing are eliminated.

Conclusion

Solvent sizing has been shown above to be a cheaper method of rosin sizing than the old method. It has also been shown that it will produce better sized paper and stronger paper than can be produced by any other method of rosin sizing and that by the use of special resins, gums, etc., still stronger paper can be produced. It is not limited to rosin. Paper can be both colored and sized at the same time by this process. It produces acid-free paper that will be far more permanent than paper sized by the old process. It produces paper with a beter fold and tear test.

It makes the vacuum dryer available for rosin sized paper and low temperature drying for the first time is now possible with the many advantages that it gives. Also the economy of steam and all the other valuable vacuum drying features are available in the making of rosin sized paper. It is a decided advantage to have rosin and acid free stock on the wire and presses of the paper machine and better formed paper can be produced.

One of the best features about solvent sizing is the elimination of the many variables of the old method of rosin sizing. All paper makers can recall days when they made slack sized paper and the difficulties they have had in getting a good sized sheet of paper let alone trying to match some particular number of seconds of a size test. This later requirement they have never been able to exactly meet. They could get a less or a greater test, but they have never been able to get even close to a size test in actual seconds of penetration of water in the size test. Solvent sizing not only makes this possible, but makes it easy to accomplish. The variables of the old method of sizing are eliminated.

Important claims made for solvent sizing are that it makes the vacuum dryer available for rosin sized papers, with attendant advantages of low temperature drying, freedom from acid and its deteriorating effects on the paper and on the machine clothing.

By means of solvent sizing samples of various types of container board have been increased as much as 75%. Many types of paper have been raised as much as 45% and hand-made sheets have been increased as much as 150%. This latter very large increase was probably due to poor fibre bonding in the hand-made sheets.

Solvent sizing is a real step forward in paper making and leaves little left to be accomplished in the drying and sizing of paper.

Is The Old Mill Making Money?

Changing times may be putting in the red the plant that was efficient yesterday.

AS I visited the many pulp and paper mills of the Pacific Coast and checked up on the possibilities for the future; as I saw the old mills still trying to compete with the new; those mills built many years ago in places where today no one would consider building; where communities have been built and have prospered for years, many of them for a generation and possibly two; I have wondered many times, and have studied the situation from all angles to ascertain if possible, first, what keeps them there and, second, what keeps them operating under their different conditions as compared with the new and more modern and efficient plants already built, and the more highly economical ones that are possible and that some day will be built.

My thoughts ran back to the Eastern States, and also into the so-called Middle West, where mills were built and operating, many of them, before there were any on the Pacific Coast, or many at least. Here, I find even more to wonder over.

A Man Per Ton

The smallest paper machine I have seen makes a sheet of paper less than 60" wide, when finished, and this machine is still operating pretty regularly. The largest machine in the world is over 300" wide and is run with only a man or two more per shift than the small one mentioned. The small one probably runs a maximum of 200 ft. per minute, while the largest one runs over 1,000 ft. per minute and probably as fast as 1200 ft.—five times as wide and five times as fast, in any event. The large one makes nearly 200 tons of print paper daily while the small one probably makes 20 tons of heavy coarse paper, with considerably less tonnage per day, of course, if it should be making paper as light in weight as print.

In one older mill, with five small machines making probably one hundred tons daily, there are about three times as many men employed as in another mill in the same location, making over three times this tonnage on three machines, and this latter mill is not now entirely up-to-date, though much better than the average.

The average wage in pulp and paper mills is close to $4.25 per day of eight hours, according to public records. If the older mills employ three men per ton at this average, the cost shows $12.75 per ton. If, in the newer mills, the most up-to-date, there are only three men to three tons, or a man per ton day, the difference is $8.50 per ton.

A mill making say 300 tons per day under the old conditions, would show in labor alone $2,550 per day greater, or in 300 days to 310 days, about $800,000 per year greater cost than in the mill under the new labor conditions employing only one man per ton.

In the newer mills located on tide water, there are many other items where costs are less. The newer power conditions save money, both steam and electric; better bearings and highly efficient pumps used in new mills, save power; the shipping conditions are better; in all, in some cases, on logs in and finished product out, better than $5.00 per ton, another $1500 per day, probably $500,000 per year.

According to estimates I have seen made by very good paper mill engineers employed by existing paper mills, groundwood pulp can be made enough cheaper when made the whole year round, as against piling winter made pulp for the manufacturing needs of the dry months, to warrant buying electric power from established power concerns at existing rates, at the same time making a very much better average product than possible from stored raw material, better especially in color, the greatest difficulty out here I am told.

These same engineers claim that with the best of everything in equipment, a cost of $25,000 per ton is sufficient, or, in the case of the 300 ton news mill used as an example, the cost of a new mill to make the same amount of paper would not exceed $7,500,000 supposing that the present owners already have all the timber needed; all the equipment for towing logs and handling fuel, also that a proper site is available at reasonable cost.

Would Soon Pay

If these estimates are in line, and I have every reason to believe they are, it would take less than five years on savings in cost of product alone to pay for the entire cost of the new mill, and as the old one should already have been entirely written off through depreciation account many times during the 30 to 40 years of its life, the money it would bring at junk prices would all be velvet.

These figures on profit, I believe, would cover the difference in net return and would include interest on whatever securities might be necessary to carry on the construction of the new plant.

But, to return to the first part of this tragedy. What would become of the communities owned largely by mill operatives where the present industries operate? What would the assessors of the respective counties in which these communities are located be able to find to assess to make up for their loss, should they go out of business? Who would stand the loss in the first case; who would pay the difference in the second?

A difference of 600 workmen would mean than 600 more men would be out of work and probably 2500 to 3000 people necessarily thrown into other lines of endeavor and into new localities. Would the owners of the old plants be warranted in taking such radical steps?

Directors of corporations are trustees; they are supposed to handle the properties and funds of their stockholders to the best of their knowledge, and, when conditions change, to take such steps as will be for the best interest of those interested in and owning their trust. When prices are such that out of date equipment can no longer show an average profit, the interests of the stockholders must be first. If worse goes to worst, a little lower market price might throw the industry into bankruptcy and everything be lost. In the case of the new, one third of the help would find employment and only two thirds turned out to look elsewhere, while in the case of trying to keep the old going and lose everything, all would lose; the stockholders their entire investment and all of the employes would be out of work.

If the owners of the out-of-date mills do not build up to the newer and higher standards, what is to prevent new people from entering the territory of the old with the best that can be built?

A careful check-up of one class of mills shows not one entirely up-to-the-minute plant located where the lowest costs would prevail. They have all been built like the farmer's house, a new room from time to time as there was an addition to the family.

A well known engineering company hit the nail on the head when in a recent advertisement it portrayed a group of executives consoling themselves about the year's losses with the statement, "The old mill never lost us any money—it's the times!" Time that has gone through the clock is gone forever. It's the conditions of TODAY that must be faced. This article presents the viewpoints of one of the paper industry's seasoned well known men who recently made a trip through the Pacific Coast territory.

The import records show that between 40,000 and 50,000 tons of foreign (meaning European) print paper came into Pacific Coast ports in 1930; probably as much or nearly so, will come in 1931. Why?

The quality of foreign paper from every point of view is no better; the color is whiter; the strength usually not so good; larger stocks of foreign paper must be carried by the consumers in order to guarantee their supply in case of shipping loss or emergency. Price usually is the governing factor. If foreign mills can deliver news print paper to the Pacific Coast cheaper than our Pacific Coast mills can, what's wrong?

Have we hit the nail on the head?

The $50,000 tons at $60 per ton represent at least $3,000,000 going to foreign countries instead of going into the treasuries of Pacific Coast paper mill concerns.

Another 50,000 tons of paper made on the Pacific Coast in 1931 would have kept all the mills making print paper in full operation instead of having to run four and five day schedules in this particular grade.

A total of 50,000 tons made in an up-to-date plant at a saving of $8.50 per ton should have made it possible for the mills on the Pacific Coast to have secured the orders now supplied by foreign mills; and, by foreign mills, I do not mean British Columbia, but Norway, Sweden, Germany, Japan, and the Eastern Coast of Canada, Newfoundland, etc.

What's the answer?

Today, the first Oldsmobile automobile, built sometime in 1904, and the first gas buggy to travel across the country is still operating and is being shown on the Pacific Coast after completion of another run from the Atlantic to the Pacific, not as a means of transportation, though being used as such, but for advertising purposes. Who, among mill officials, would want it as a machine for his family, or as a business car as a means to get from place to place in this day of speed, efficiency and prohibition?

There are some paper making machines in paper mills today on the Pacific Coast that are twice as old as this Oldsmobile, and probably not any more efficient. There are many machines in other states East of the Rockies that are much older than those mentioned out here. How can they stay in the race for profit?

What chance would this "Old Scout" Oldsmobile have in a race today with any of the present day product of any make?

How to Obtain Service From a Bucket Elevator

Thinking back over more than 15 years' of experience in the selection, erection, maintenance and servicing of various types of bucket elevators, Ralph McMillan, construction superintendent of the Link-Belt Company, says 7 points should be watched.

Avoid Overloading. In originally selecting a bucket elevator for a given purpose, the specifications of the material to be handled and the quantity to be elevated during a given time, with regard to the greatest load at any one interval, should be known. From this, an elevator designed to give the longest efficient service will be obtained. If the plant's capacity is expected to increase in the future, this fact should be borne in mind and the original elevator provided to care for this anticipated capacity.

Roominess. Sufficient room in the elevator casing is essential to long life, as ample space does away with the wear or buckets on the casing, and its resultant depreciation. Pits for the elevators should always be roomy to allow quick and easy access for adjustments, cleaning of the boot and lubrication.

Uniform Feed. On centrifugal discharge type elevators the receiving point should be well up above the foot shaft so that the major portion of the material is discharged directly into the buckets. A uniform feed is essential because the elevator will choke and stop if overloaded. This applies to continuous bucket elevators as well.

Proper Discharge. Make sure the discharge chute is of ample proportions, and placed at a suitable slant or angle, to insure immediate freeing of material, without danger of its backing up to the line of buckets.

Driving Mechanism. A positive drive gives best results, and this may be accomplished through the use of several efficient methods. The use of proper drives eliminates much of the usual noise and vibration, as well as annoyance of the elevator drive.

Lubrication. Best methods are through pressure systems, and the use of take-ups, pillow blocks, etc., having ample grease or oil storage facilities. Drives running in oil-or-dust-tight casings give longest service.

Danger. When you hear material dropping down the elevator casing you know it is time to stop the elevator and investigate, as something must be wrong. If you don't know what to do, consult any bucket elevator manufacturer's engineer or service man.

New Seattle Home of the Pacific Waxed Paper Company

Pacific Waxed Paper Now In Seattle Plant

Following their move from Tacoma approximately one month ago the Pacific Waxed Paper Company is now established in a new daylight plant at 1505 Sixth Ave. So., Seattle. The new location greatly improves shipping facilities, affords an up-to-date factory, and enables the company to extend a greater measure of service to customers.

The new plant is in a rapidly growing industrial district close to the main business section of Seattle. The new building, which was erected to the specifications of the Pacific Waxed Paper Company, is a one-story structure 120 by 210 feet. The walls and floor are concrete, while the roof is heavy mill type construction equipped with numerous skylights to provide daylight working conditions.

Great Northern trackage runs the full length of the building. On both the front and one side are truck-ways which permit loading under cover. A truck freight depot is located in the same block, railroad receiving sheds of all lines entering Seattle are close by and piers of the California and Alaska steamship companies are within a few blocks. Transportation, in and out, is exceptionally well taken care of.

As for supplies, the company has quick access to the stocks of the Seattle paper jobbing houses, all of which are located within a half mile radius.

The front corner of the building is glassed off from the main factory to provide office space. An automatic oil-burning furnace heats the building. Modern rest rooms fitted with shower baths are provided for the employes.

Most of the building is given over to one large room, housing machinery and stocks. There are two waxers, a cylinder press, a slitter, spot sheeter, two cutters, and other equipment. The company turns out a large line of plain and printed waxing papers, including bread wraps, confectionery, florist, and butchers papers, waxed kraft for vegetable crate liners, and carton insides.

Two recent items developed include a domestic waxed roll, with a special handy tearing device, and a butcher paper. The household package is sold under the trade name of "Pac-Wax" and the other item is called "Hand'I'Wax". Along with printed items for other consumers, such as bakeries, the company is developing some of its own brands.

In addition to a large business in the Pacific Northwest, the company is able, due to its exceptional shipping facilities, to command a very substantial share of business in California and the Southwest. It maintains warehouse and sales facilities at both San Francisco and Los Angeles.

Allen B. Engle is president of the company and T. W. Mason is secretary-treasurer. Operations are in charge of Superintendent J. C. Jackson. Francis Wenke is assistant sales manager.

V. D. Simons Suggests Power Plan

Industry pays high toll in steam and power costs thru toleration of inefficiencies that could to a large degree be eliminated if the thousands of individual plants in major industries and public utility central stations were operated in coordination. The electrification of industry, which has constituted one of the outstanding triumphs of the electrical utilities in recent years, seems to have arrived at checkmate, if not at saturation.

How this temporary barricade to the further expansion of the electric utilities may be removed is a subject worthy of intense study. The industrial engineering firm of V. D. Simons, Inc., has made an exhaustive study of the subject and now offers a definite program for the development of "joint firm power", wherein public utility and big industry pool their heat and energy requirements for the benefit of more efficient operation.

In a handsomely done brochure dealing with "Principles of Industrial Plant Engineering", "A Layman's Glance at Papermaking" and "Joint Firm Power Plants" Mr. Simons' organization presents an analysis and a plan for securing these efficiencies. In the data presented are vivid suggestions of something approaching an epochal change in electric generating standards, industrial and public utility relations.

A plan for the development of 3,000,000 KW capacity in Joint Firm Power Plants by the utilities is described in one of the chapters. Mr. Simons points out that the utilities, process industries, manufacturers of power plant equipment, electrical suppliers, engineering and construction organizations, and business in general would benefit in carrying out the plan. Employment would be bettered.

The development would require an investment by the industrials and utilities to total $500,000,000. The yearly benefits after all fixed charges, including early amortization, would be $60,000,000. Immediate undertaking of the plan is suggested in order to secure the full development which, it is indicated, can do so much in a revival of business.

The brochure is profusely illustrated with pulp, paper and power plants all over the United States with which Mr. Simons and his engineering organization have been actively identified. These plants include a large number on the Pacific Coast.

U. S. Magazines To Be Printed in Canada

As the result of the increased tariff on United States' magazines entering Canada, 20 of such magazines will now have editions printed in the Dominion. This is expected to bring a very valuable accession of business to Canadian printing establishments and will result in requisitions for Canadian newsprint, in some cases, and, in other cases, for Canadian-made coated paper, book paper, etc.

Coast Traffic Association Meets

Three questions of much importance to the pulp and paper industry of the Pacific Coast were discussed earnestly at the meeting of the Pacific Pulp & Paper Traffic Association in Portland, November 3. This was planned to be the annual meeting of the organization, but because an insufficient number was present to represent the thought of the industry as a whole the annual session was set over until December 7, when it will be convened in San Francisco.

San Francisco was selected as being most convenient for the greatest number of traffic managers of the pulp and paper industry and because it would be possible to confer there with officials of rail and water carriers.

The first question of importance discussed was the matter of intercoastal freight rates. Since the intercoastal conference of ship lines dissolved recently, boat rate conditions have been somewhat hectic and rates have been severely slashed. Re-formation of the conference, to take place by February 1, will undoubtedly mean an increase in freight rates, according to the association's chairman, J. J. Seid, of the Crown Zellerbach Corporation. Involved are various kinds of paper, wood pulp and box board.

Certain preliminary investigations are to be made by the association and information obtained and definite action as to the demands to be made upon the ship operators will be taken at the San Francisco meeting. It is expected that following the association session, ship operators who are certain to be participants in the intercoastal conference will be met with by the association.

Question No. 2 before the meeting was the Interstate Commerce Commission decision in the 15% railroad rate case. The decision, while denying the blanket increase requested, provided for certain commodity increases seriously affecting the pulp and paper industry. If the railroads and water carriers participating in rail-and-water movements accept the commission proposal a sur-charge of $3 per car will be slapped onto pulpwood; $6 per carload on sulphur; one cent per 100 pounds on fuel oil, and two cents per 100 pounds on all other commodities; no increase to exceed a maximum of 10%. The commission anticipates this plan will raise between $100,000,000 and $125,000,000, for relief of the railroads.

It was agreed that inasmuch as the association had no hope or method of combatting the proposed transcontinental freight rate increases, each mill would have to handle its local rates individually with the carriers where truck and water competition might influence the roalroads to forego increases that might lose them business. It was agreed that the mills would exchange ideas and cooperate where they could help each other.

The third question of importance was that of stops in transit. The transcontinental lines have authorized a stop to complete unloading in transit on wallboard. The discussion was occasioned by the possibility of this being extended to paper and boxboard. There was also some discussion with transcontinental lines as to whether the same privileges should be extended to Pacific Coast manufacturers on shipments to points west of the Rocky mountains. The whole question, it was agreed, was to be referred to the respective sales departments of the Pacific Coast manufacturers for their opinions. The matter will then come up for further discussion and decision at the annual meeting in San Francisco.

Among those who participated in addition to Chairman Seid were C. B. Richards, traffic manager of Hawley Pulp & Paper Company; P. Spencer, representing Oregon Pulp & Paper Company, Columbia River Pulp & Paper Company, and California Oregon Paper Company; J. Billington, representing St. Helens Pulp & Paper Company and Fir-Tex Insulating Board Company, and L. R. Gault, Crown Willamette Paper Company. The meeting was held at the Multnomah Hotel.

In addition to transcontinental rates, intercoastal rates and transit stops, the San Francisco meeting will likely consider offshore rates, trucking rates, as there is some desire to encourage the truck lines if only as a useful competitor to keep the rialroads in line, and several other matters.

Coast News Print Prices in New Drop

Contracts for news print are now being closed in the Far Western states at a base price of $50, delivered at major Pacific Coast ports. The new price, which is effective January 1, 1932, represents a drop of $8 per ton from the present price of $58 per ton established one year ago. Prior to that the "going" Coast price on news print had been $63.50. The present price therefore represents a drop in the price of news of $13.50 in a year's time.

It is understood that the $50 price is protected to the end of 1933 and that a price of not to exceed $58 is guaranteed for 1934.

Altho the statistical position of the news print mills on the Pacific Coast side of the North American continent has been better than the Eastern side, the situation has been much disturbed in the past year or two. Imports of Scandianvian news to the Pacific Coast have increased to an estimated annual 50,000 tons, and some news has also found its way to the Coast from Newfoundland. It is reported that at least one daily paper on the Pacific Coast has placed its news print contract with an American mill in the Great Lakes territory.

Water Rate on Pulp Extended

The Luckenbach Gulf Steamship Co., Inc., announce that the eastbound emergency rate of 25c per 100-lbs. on wood pulp, not exceeding 60 cubic feet per 2000 lbs., in lots of 350 tons or over, from Pacific Coast ports to Gulf terminal ports, has been authorized extended to June 30, 1932.

New Pulp Rate on Water Route

The Luckenbach Gulf Steamship Co., Inc., announce that effective October 27th the Mississippi Valley Barge Line are adding a new item to their Tariff No. 4, covering wood pulp in bales in lots of 175 net tons, from New Orleans to Cincinnati, and moving via the Luckenbach Gulf Line, of 22c per 100 lbs., this rate to apply only as a proportional rate on shipments originating on the Pacific Coast and when destined to Hamilton, Ohio. This rate expires June 30, 1932.

Longview's Vacuum Dryer About Ready

Last reports as this was written indicate that the Minton Vacuum Dryer experimental paper machine which the Longview Fibre Company has been erecting in its mill in the past couple months was ready to turn over on November 8. This latest plant addition has a 90-inch wire.

The existing buildings of the Longview mill were able to accommodate the new unit with practically no change.

The company has plans for the production of special grades of paper and it purchased the vacuum dryer as it was the smallest unit on which they felt they could achieve full commercial results.

T-R-A-D-E - T-A-L-K

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A. W. Towne, Blake, Moffitt & Towne, San Francisco.

Secretary-Treasurer
H. Arthur Dunn, San Francisco.

Paterson-Pacific Parchment Enlarging Space

The Paterson-Pacific Parchment Company is enlarging its Pacific Coast operations by building a new three-story addition, 35 by 140 feet, to its San Francisco plant at 68 Rincon Avenue. The company, which is the Pacific Coast branch of the Paterson Parchment Paper Company, acts as a service unit for the Western terirtory on parchment paper used for wrapping moist products such as butter, meats and cakes.

With the addition of some facilities the company found itself crowded in its old quarters. Some new presses are being added to be installed in the new addition. The company has also put in its own photo engraving plant. The enlarged quarters will also permit the carrying of greater stocks for the convenience of the Pacific Coast trade. More than $60,000 is being spent on new buildings and equipment.

O. V. Duco is president and manager of the Paterson-Pacific Parchment Company.

William Gray, a representative of the company, was in Seattle recently on a trip to the Northwest. "Business is holding well with us," Mr. Gray reports. "We have no complaint to make."

French Goes to Florida

Fred H. French, president, Fred H. French Paper Company, Los Angeles, accompanied by his wife and two daughters, sailed from Los Angeles recently via the Panama Canal to spend the winter in Florida.

R. W. Geils, formerly sales manager fine paper department, Ingram Paper Company, Los Angeles, has resigned, and Harry McDonald has been appointed to take his place.

D. A. Stock, formerly sales manager Sierra Paper Company, Los Angeles, has resigned to take up a similar position with the Carpenter Paper Company, Los Angeles.

Fred Wuenschel, Grays Harbor Pulp & Paper Company, Hoquiam, Washington, visited the trade recently in Los Angeles.

Burning Midnight Oil

Robert C. Clark, sales promotion department manager of the Zellerbach Paper Company, San Francisco, is in charge of an educational program which will enable Zellerbach men along the coast to learn more of the problems of the other fellows in the Crown Zellerbach Corporation, the holding company. The program started at Oakland, where each evening, after work, the employes gathered for talks by employes and executives of Crown Zellerbach subsidiary companies on different phases of their work.

New L. A. Paper House

C. Lavine, and J. J. Bayer, Los Angeles, have organized the Reliance Paper Mills, to engage in the paper jobbing business in the Southern California city. They will shortly capitalize the company for $50,000. Kraft, manila, tissue and gummed paper, as well as shipping supplies will be handled. The company is planning on purchasing their stock on the Pacific Coast.

G. F. Barber, sales manager, Reading Paper Mills, Reading, Pa., was a recent visitor to the trade in Los Angeles.

George A. Ward, president, Ward, Davis & Dunn, Long Beach and Los Angeles paper jobbers, was recently appointed chairman of the Long Beach division, Metropolitan Water District.

Among those present from the Pacific Coast paper industry at the recent University of California—University of Southern California grid battle at Berkeley, were Roland C. Ayres, advertising manager, Zellerbach Paper Co., San Francisco; R. K. Erlandson, Blake, Moffitt & Towne, Los Angeles and Frank R. Philbrook, Graham Paper Co., Los Angeles.

Paul Herb Now A Papa

Paul Herb, vice-president of the Pacific Coast Paper Mills, tissue manufacturing and converting plant at Bellingham, Washington, became a papa on the afternoon of October 14. The pocket edition to the Herb family weighed nine pounds on arrival. The mother has chosen the name "Paula" for the wee one, the feminine of the father's name.

A. Bothe, president of Kleen Products Company, manufacturers of paper plates, forks, spoons, etc., North Wales, Pennsylvania, was a recent visitor to Los Angeles.

George E. Van Vlack, city sales manager fine paper department, Blake Moffitt & Towne, Los Angeles, recently returned from a vacation motor trip to San Francisco and way points.

Charles E. Dixon, Jr., director of sales, San Antonio Paper Company, San Antonio, Texas, was a recent visitor in Los Angeles. The San Antonio Paper Company is a branch of the Carpenter Paper Company.

VICTOR HECHT

These men figure in California news
J. Y. BARUH

MASON OLMSTEAD

Baruh Named Crown Zellerbach Vice President

The affairs of the Crown Zellerbach Corporation and its various subsidiaries in Southern California and Arizona, effective November 1, have been placed in the hands of Joseph Y. Baruh, who has opened offices in the new Title Insurance Building, 433 Spring Street, Los Angeles, California.

Mr. Baruh managed the Los Angeles Division of the Zellerbach Paper Company for 30 years with marked success. "This promotion comes to him on merit and in recognition of his long and successful career as a paper merchant," it was announced from San Francisco headquarters of the Crown Zellerbach Corporation in making public Mr. Baruh's appointment, "his high character and standing in Southern California as a man and a citizen and his well known ability as an all round business man and executive. He has been a director in the Crown Zellerbach Corporation since its organization and has now been elected a vice president, an office of great importance in the corporation."

Mason B. Olmstead, vice president of the Zellerbach Paper Company, has been selected as Mr. Baruh's successor in the affairs of that company in the South. Mr. Olmstead has been connected with the company a number of years as vice president in charge of sales, and is a well known figure in the paper business on the Pacific Coast. Prior to his present employment he was sales manager of several pulp and paper companies in the Middle West and on the Pacific Coast.

Victor Hecht, who has served the company faithfully as salesman, sales manager, assistant manager and manager for the past 25 years, will continue in the position of manager, which insures the customers of the Zellerbach Paper Company in Southern California and Arizona a continuance of the splendid service he has heretofore rendered them.

Osmund & Company Moves

Osmund & Company, Portland, paper jobbers and laundry supply house, located for the past six years at 46 Front Street, have leased a building at East Second Street and Broadway and are moving into it. They expect to be in by the first of December. The building has been remodeled for their requirements. It is 100 by 100 feet, two stories and a basement, and provides 30,000 square feet of floor space.

Osmund & Company was founded 18 years ago. Alfred Osmund, brother of Theodore Osmund of the Columbia River Paper Company, is president. H. R. Kemp is vice president and Cora Osmund, secretary-treasurer. Chiefly wrapping paper is handled by the firm, but they also distribute some fine paper.

Paper Twine Company Needs Larger Quarters

The city of Camas, Washington, has been much stirred up of late over the prospects of losing the Perfection Twine Company, which manufactures twine out kraft paper purchased from the Crown-Willamette paper mill. The firm also makes colored cellophane twine and a three-colored twine from rayon for gift wrappings.

President James Duvall of Perfection Twine Company declares that he must have a larger building right away. This building will be used for storage at first, but within a year the plant will occupy it. Sites for such a structure have been offered free or without ground rent at Portland and Vancouver, as both communities are anxious to get the plant. The Camas Chamber of Commerce, however, is trying to find a suitable free site for Duvall to induce him to stay. Duvall is inventor of the twine-making process employed at his plant.

New Weyerhaeuser Mill Soon in Production

As the October leaf was torn off the calendar the first units of the new 175-ton bleached sulphite pulp mill of the Weyerhaeuser Timber Company at Longview, Washington, were being turned over to initiate production in the Coast's newest plant.

During October a large crew was kept with the wind-up of construction, setting machines in place, wiring, and piping. The construction crew of Chris Kupplers' Sons, contractors, have finished their work, as the month closed. Clean-up work was being pushed.

The mill is exceptionally interesting from the engineering standpoint, as every advantage has taken to incorporate latest ideas in the design. O. C. Schoenwerk, who has been actively identified with the development and design of several Pacific Coast pulp and paper plants, is the consulting engineer.

Otto W. Mielke, Northwest president of Blake-Moffitt & Towne, has had little time in the last several weeks to give to the paper industry. As chairman of the central committee of the Portland Community Chest he has been busy raising some 60% of the total chest requirement of nearly $800,000.

New Types
New Models
New Machines

EQUIPMENT

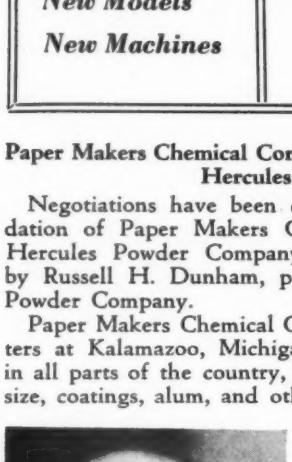
Manufacturers of, and dealers in, equipment used by pulp and paper mills, board manufacturers, converting plants, paper merchants, or any other branch of the industry may make their announcements in this department.

New Dealers
New Branches
Appointments

Paper Makers Chemical Corporation Consolidates With Hercules Powder

Negotiations have been completed for the consolidation of Paper Makers Chemical Corporation with Hercules Powder Company, it has been announced by Russell H. Dunham, president of the Hercules Powder Company.

Paper Makers Chemical Corporation, with headquarters at Kalamazoo, Michigan, and plants and offices in all parts of the country, is a large supplier of rosin size, coatings, alum, and other chemicals to the paper industry and is a manufacturer and jobber of a number of industrial chemicals. The concern will continue to operate under its own name and with its present organization which is headed by W. J. Lawrence of Kalamazoo, president.



W. J. Lawrence
President
Paper Makers'
Chemical Company

Hercules Powder Company is a large producer of explosives, naval stores, cellulose products, and chemical cotton. An international marketing organization, exclusive research facilities, and an increased line of paper making chemicals and materials are made available to Paper Makers Chemical Corporation through the consolidation.

Paper Makers Chemical Corporation has fifteen plants in the United States, including one at Portland, Oregon, and operates as subsidiaries Paper Makers Chemicals, Ltd., of Erith, England and Vera Chemical Co., of Freeman, Ontario.

The consolidation of interests, it was stated by the Hercules president, will afford both companies increased technical and physical resources for serving present and future customers.

Link-Belt's Promal Now Used For Industrial Castings

The story of Promal, which for four years has been made by Link-Belt Company and used exclusively in its own chain products, interests manufacturers because it shows how a successful method found a larger field outside of the smaller sphere for which it was originally developed.

Link-Belt was intent only upon improving the metal entering into its own cast chains, and after several years of research accomplished this result. Today, however, Promal finds a strong demand from manufacturers of standard equipment, for use in parts here and there in their products.

The reason is because Promal, Link-Belt points out, combines great strength and resistance to wear, ductility, and low production cost.

Promal is made at Link-Belt Company's Ewart Works, Indianapolis, where facilities have been increased to take care of the demand aside from the company's Promal chain requirements.

Short Center Drives

"Vim Short-Center Drives" is the name of a new 148-page belt treatise compiled by the Engineering Research Staff of E. F. Houghton & Company, Philadelphia, Pa. It is an entirely new treatment of efficient short center drives. The book contains charts, tables, and engineering data on 5,000 standard Vim efficiency drives ranging from 5 to 100 h.p. The book is built entirely around Vim special mineral tanned leather belting which is well known among belt users.

This book was originally published for use by Houghton's technical field men, to assist them in discussing and working out transmission problems with engineers, and, therefore, it is not for general distribution, due to the high cost of preparing the data and calculations, as well as printing. Copies will be delivered by a Houghton distributor to executives and engineers directly interested in transmission who will send in their requests in writing on the letterhead of the concern or individual.

Foxboro's Anti-Ambi Thermometer

Extreme accuracy and freedom from the effects of ambient temperatuers (case and tubing temperatures)—these are the claims made for the new "Anti-Ambi" recording thermometer recently developed by the Foxboro Company of Foxboro, Mass.

This new recording thermometer gives true bulb temperatures at all times irrespective of summer heat or winter cold. The case and tubing may be enclosed in a cabinet and the temperature changed rapidly or slowly up and down for 50° and the pen will remain perfectly steady. The thermometer is designed for use on temperature ranges up to and including 250° F.

More detailed information on this instrument may be had by writing Foxboro for Bulletin No. 178.

George W. Moore Company Joins Link-Belt

The merger of the George W. Moore Company, of Chicago, with H. W. Caldwell & Son Company, a subsidiary of Link-Belt Company, is announced. The combined units are to be known as The Caldwell-Moore Division, Link-Belt Company.

Max H. Hurd, formerly president of the George W. Moore Company becomes a vice president of Link-Belt Company, in charge of the Caldwell-Moore operations. His headquarters will be at 2410 W. 18th St., Chicago.

False Economy of Operating Worn Out Equipment

By RALPH S. DRURY
Link-Belt Company, Seattle

Many executives of pulp and paper plants do not realize the false economy of operating worn or poor fitting chains on sprockets. To insure durability and maximum service of both chain and wheel the sprocket wheel must be made to fit the chain, which is of course the standard. On a sprocket wheel of correct design the chain should entirely encircle the wheel, just reaching a coupling position. The wheel should also have teeth with large fillets at the bottom of the tooth so that the round barrel of the link or chain rollers will come in contact with the face of the sprocket tooth giving as much contact area as possible between the chain and the sprocket.

When a chain becomes worn, the chain is no longer the standard and as the sprocket pitch or distance between the teeth cannot change, the chain gradually climbs higher and higher on the sprocket tooth, then slips down into the bottom of the tooth as the load comes on the individual chain link which is gradually increasing in pitch from wear.

The continual slipping or sliding action of the worn chain on the sprocket tooth wears out the sprocket as well as the chain very rapidly after the chain becomes excessively elongated by wear. A new chain should then be considered immediately, otherwise the sprocket will also have to be replaced, which often means that in addition to the cost of a new sprocket there is the labor of removing the shaft to get the sprocket off, which on a long shaft amounts to considerable. Many times a new shaft is required if it is corroded or rusted as the worn sprocket cannot be removed.

Even a new chain put on an old worn sprocket is not economy, for again the chain is the standard and cannot seat itself properly on a sprocket with worn teeth, hence a new chain starts to wear much faster on a worn sprocket than if put on a sprocket that it fits. A frequent careful inspection of chain and sprockets for wear often saves quite an investment in new parts, and any live millwright responsible for continuous operation of his plant will see that such inspection is made and insist on keeping his chain and sprockets in good condition as this in the end will always pay.

Salem Addition Is Delayed

The Oregon Pulp & Paper Company is not yet ready to go ahead with the construction of an addition to its plant in Salem, which the city council has been pressing it to begin. When built the addition is to be used for a warehouse, it is reported.

Some months ago the city of Salem vacated a portion of Trade street to accommodate the proposed new structure, and at the time it was understood that construction was to start within six months. However, some other matters must be cleared up before erection of the plant starts, it is now reported, so that actual commencement of the work will be some time yet in the future.

New Superintendent At Sitka Spruce Mill

A. Gustin started in October as superintendent at the Sitka Spruce Pulp & Paper Company mill at Empire, Oregon. He comes from Wisconsin.

The mill has a daily rated capacity of 50 tons of unbleached sulphite pulp.

George W. Houk, executive vice president of Hawley Pulp & Paper Company, returned early in November from a business trip East.

STANLEY J. SELDEN
INDUSTRIAL ENGINEER
INDUSTRIAL PLANTS
PULP AND PAPER MILLS
•
121 PERKINS BUILDING PHONE MAIN 2365
TACOMA, WASHINGTON

Better Wheat Prices—Better Business

If the price of wheat continues upward British Columbia newsprint mills expect considerable business improvement in the Canadian prairies, for if wheat is up prairie business of every kind is favorably affected. During the recent business slump, which has hit the wheat country probably harder than most districts, newsprint sales have been off considerably. Higher wheat will soon change that condition, newsprint men say.

Improvement in the Middle West newsprint market may expedite the long pending plans for establishment of a newsprint mill at Prince George, which would cater to the rail trade eastward rather than to the coast and offshore business.

Beyerl Back From East

The eastern pulp market is not very encouraging, C. F. Beyerl, superintendent of the Spaulding Pulp & Paper Company, Newberg, Oregon, reported to the board of directors November 4, upon his return from a visit of several weeks to eastern mills. Because of European countries going off the gold standard, foreign competition has forced a drop in pulp prices.

The board meeting was largely occupied with Beyerl's report and discussion of the market situation. No plans were made to put the third drying machine at the plant into operation, as had been anticipated if conditions were found favorable. This machine has been idle since it was installed.

Beware of Racketeers

When times become difficult many men are put to it to find ways and means of making a livelihood. Many of these individuals, especially since the ordinary promotion schemes have fallen by the wayside, are resorting to organizing so-called associations, clubs and pseudo-political groups. Most of these organizations are formed for the sole purpose of providing a job for the promoter, and while motives of many of these individuals may be sincere, their efforts usually are a direct duplication of those of some existing organization. The active support of these new groups offer a handicap to existing agencies which are already carrying on in their respective fields.

Residents and business people are urged to give careful consideration to the efforts of promoters, keeping in mind the minimizing of duplications of civic organizations. — Los Angeles Chamber of Commerce Bulletin.

Japan's Own Rayon Pulp—New Developments

"Japan is going to see what it can do in meeting its needs for rayon pulps from domestic sources," a Japanese business associate writes to R. D. Horning of Horning, Webber & Co., Inc., importing and exporting agents of Seattle.

"At the present time," the Tokyo correspondent continues, "Japan uses about 24,000 tons per annum of rayon pulp. Canadian, American and European manufacturers are now filling the Japanese demand, but in view of the extensive rayon industries in Japan efforts are being made to produce the pulps at home. Japan would like to have its rayon industry on a self-sufficient basis, and plans toward that end are now in progress.

"The Oji Paper Company, Ltd., and the Kabafuto Kogyo, Ltd., are reported to be much interested in the possibilities of rayon manufacture, the former at a plant to be built at Shikika, on Saghalien Island, and the latter at the Tomariori mills in the same island. This last named mill has so far manufactured only sulphite pulp for paper.

"On the other hand, some interests entirely outside of the paper industry, have recently obtained a government license to purchase timber on Saghalien Island for the purpose of making rayon pulp. The purchase is under the following conditions: to purchase 1560 million superficial feet of timber; to establish a rayon pulp manufacturing company within six months after signing the timber sale contract; to organize a company with a capital of not less than 1,000,000 yen (about $500,000).

"The plan is attracting much interest in the Japanese paper and rayon industries, as realization would have a noticeable bearing on the paper industry, the local manufacturers of pulp, and the importers of pulp and paper, inasmuch as the new venture would have the right of making paper-pulp as well as rayon pulp.

"It can not be learned what tonnage would be produced by the realization of any one or all of the three projects, but it is quite certain in any event that the Japanese demand for rayon pulp could well be taken care of. On the score of qualitty there is some doubt whether a satisfactory rayon pulp could be manufactured without a long experience on this specialty grade."

Mr. Horning has also been advised by the Japanese associate that "Canadian news print has recently been making considerable headway in the Japanese market. One reason attributed to the success of the Canadians in getting into this market is their disposition to try and meet the wishes and requirements of the Japanese buyers." The increase of Canadian news print into Japan is supported with the following statistics:

Country	Quantity Imported Jan.-July, 1931 Lbs.	Corresponding Period of 1930 Lbs.
Norway	15,439,000	2,854,000
Sweden	12,639,000	9,427,000
Canada	8,583,000	----------
Germany	2,299,000	5,123,000
U. S. A.	1,196,000	33,000
England	504,000	457,000
Others	2,532,000	418,000
Total	43,195,000	18,316,000

The appearance of Canadian news print in significant quantities is hailed as a most important event in Japan because the syndicate of Japanese news print manufacturers have been forced to reduce their standard selling prices by 15% since last June and even with this reduction have not been able to compete successfully with the Canadian manufacturers. Further price cuts have been forced in the effort to retain customers.

"In view of present trends," Mr. Horning is advised, "it is believed that the last half of the year 1931 will see still further important gains in the export of Canadian news print to Japan, just as Canadian sulphite pulp supplanted European pulp sold exclusively in the Japanese market before the World War."

Japan Has Its Troubles

Suspension of the gold standard by Norway and Sweden has served to complicate things in the Japanese pulp and paper industry. Scandinavian pulp can now be purchased 25% cheaper in Japan, at last reports, due to depreciation of the pound sterling. It is reported that Japanese manufacturers can not hope to compete with prices at such a low level.

The recent trouble in the Norwegian mills has enabled American rayon pulp to become firmly established in Japan, but it may be necessary to meet a radical price competition if the volume of imports is to be maintained.

The Chinese were quick to boycott Japanese goods upon development of hostile feeling in Manchuria. The result is that the Japanese paper industry has seriously felt the loss of business and is now rapidly piling up stocks of pulp and paper. Prices are declining. The pulp stock at the end of September was valued at over fourteen million yen. It is even reported that one of the largest Japanese pulp and paper interests has been carrying such a large stock that the company has sent representatives to the United States to see whether shipments to the Pacific Coast might be made to assist in clearing the stock.

Reports from Japan indicate that the depreciation of sterling may make considerable difference to pulp imports from Canada and the United States, but it is possible that Scandinavian prices may be raised to more nearly effect a balance with the depreciation in exchange.

On this side the Chinese boycott is not without its effect. Orders for Pacific Coast newsprint immediately picked up with the outbreak of Japanese-Chinese feeling with the result that a considerable tonnage for Chinese newspapers has come to the North American side.

Japan's Paper Production and Sales September—1931

	Production (Lbs.)	Sales (Lbs.)
Printing Paper Superior Quality	12,191,214	10,917,957
Printing Paper Ordinary Quality	10,386,850	10,653,031
Writing Paper	2,941,957	2,745,193
Simili Paper	9,394,365	8,786,156
Art Paper	1,152,386	987,552
News Printing	43,216,696	43,983,916
Sulphite Paper	4,922,001	5,245,466
Colored Paper	1,556,698	1,453,745
Wrapping Paper	12,201,720	11,284,738
Chinese Paper	1,458,064	1,139,743
Board Paper	6,535,210	7,129,568
Sundries	4,619,497	4,717,691
Total	110,576,658	109,044,756

Reasons for the Widespread Acceptance of Part Paper and Part Cotton Fabrics

The invention of a tarlatan cotton fabric, best known for its utility as a foundation fabric for a cellulose substance like paper or wood pulp, has probably had something to do with the success of the numerous kinds of plastic textures which are finding favor in directions not contemplated until recently.

When the foundation textile fabric was made of light cheese cloth stock, it served well enough for reinforcing the interior of envelopes and the back of maps. Usually the flimsy fabric was simply pasted on the back of the paper. The modern type of plastic fabrics are manufactured on a more intact principle. The cellulose substance is made a part of the cotton, flax, silk, rayon or tow texture. A smooth, strong, and resilient paper and textile structure results which possesses certain valuable qualities.

For instance, it is a noiseless material, a property which may not appear to be important until it is known that there is a demand for crackle proof manuscripts and programs from many sources now that it is known that such are available.

As an example, in sound picture studios in Hollywood, ordinary paper cannot be used by the directors when reading the parts from the manuscripts because the creaking, flapping noises made by the paper become multiplied many times in volume by the delicate microphones and spoil the picture.

Radio manuscripts have to be soft also. The pliability of the part paper and part cotton sheets overcomes the noise, as the interstices of the threads of the cotton structure are filled with the cellulose material and all sounds resulting from the rubbing of threads or creaking of bent paper are stopped.

Coinage Depreciation Benefits Canada's News Mills

Depreciated Canadian currency may be responsible for improving the financial statements of several newsprint companies operating in Canada this year. Although executives of British Columbia newsprint concerns point out that the premium on United States funds with which their product is paid for is about offset by the depreciation in the value of Canadian money used in buying equipment and paying off bond interest in the United States, a prolonged period of currency depreciation is pretty sure to be financially beneficial to the Canadian companies.

Where payment for newsprint manufactured in Canada is made in Canadian money, the Canadian producer stands to benefit about 10%, it is reported, as that represents the approximate decline in the value of the Canadian dollar since Great Britain abandoned the gold standard.

On a turnover of several hundred thousand tons of newsprint, the premium on American funds received in payment for shipments is expected to effect substantial improvement in the income statements of Canadian newsprint manufacturers.

Swedish Employers Cancel Wage Agreements

Collective wage agreements in a number of Swedish industries, including the wood pulp industry, were cancelled by employers effective January 1, 1932. Notice was given on September 30, and it is understood that similar action is to be taken by a number of minor industries on October 31. Agreements between paper and saw mill operators and their workers prescribe giving notice on the latter date.

Argentine Mill Making Straw Paper

The mill of the Compania Celulose Argentina, in the province of Santa Fe, has been in operation since February, producing chemical pulp and paper from the straws of wheat, oats, barley, rye, corn, and linseed, by a process patented by Engineer Emberto Pomilio. The company is also manufacturing several by-products such as fine table salt, concentrated liquid caustic soda, hydro-chloric acid, sodium hydrochlorite, chloride of lime, etc.

The output of pulp and paper by the company during the months February to July, inclusive, aggregated 526 metric tons and 1,078 metric tons, respectively. When the installation of all the machinery is completed the total daily capacity of the plant will be between 12 and 14 metric tons of chemical pulp, and 18 to 22 tons of paper. Samples of the paper produced by the company have been included with Assistant Trade Commissioner Jule B. Smith's report, and will be made available to interested firms upon application to their district offices, or to the Paper Division in Washington.

B. C. Plans Australian Good Will Tour

British Columbia pulp and paper companies will probably co-operate in organizing and carrying out the proposed Canadian good-will voyage to Australia, which is being planned in return for the good-will tour of Canada recently carried out by Australia.

Australian manufacturers loaded a cargo worth approximately $2,500,000 on the steamship Canadian Constructor, which was especially chartered for the purpose, and the voyage was under the auspices of the Australian and state governments as a means of advertising a wide variety of Australian products adapted for sale in Canada. The idea was a sequel to the Canadian-Australian trade agreement ratified early in the year.

Now it is proposed that Canada shall send a cargo of Canadian goods suitable for the Australian market southward, and pulp and paper, paper wraps and lumber are included in the items to be emphasized. Powell River Company, Pacific Mills, B. C. Pulp & Paper Company and Westminster Paper Company will probably be called on to send their quota of products.

The Sulphite Pulp Suppliers

The European sulphite pulp cartel including producers in Norway, Sweden, Finland, Germany, Czechoslovakia, Austria, and Memel, are operating under an agreement to curtail production by 30%. Further curtailment is hinted. Sales so far this year have been so much below normal that stocks have accumulated at various mills in spite of the lockout in Norway, which kept most of the Norwegian cartel members idle for nearly six months. There is very little prospect of an increase in demand in view of international developments during the last few weeks, which may make it necessary for the cartel to take up the question of further curtailment.

Ontario Wood Exports Almost Nil

Pulpwood shipments from Northern Ontario points this winter will probably not exceed 8,000 cords, it is authoritatively stated. In previous years the cut has reached 400,000 cords, a good part of which was destined for United States mills. The inactivity of many pulp mills in Ontario will probably result in most of the relatively small cut of the farmers finding its way south of the border.

Germany's Paper Exports Increase

Exports of paper and paper products from Germany during the first 8 months of 1931 totaled 586,322 metric tons, valued at approximately $61,403,000, as compared with 611,232 tons and $71,219,000 for the corresponding period in 1930, a decrease of 4% in volume but 14% in value. The declines seem to have been experienced chiefly in the finer papers and paper specialties, shipments of wrapping papers, printing papers, and boards, which constitute some of the leading items on the German paper schedule, all registering increases for this period.

Canadian Cellophane Plant Soon Completed

The new plant being constructed at Three Rivers, Quebec, for the manufacture of cellophane is expected to commence operations next spring with an initial personnel of 90 hands. The product, for which there is an increasing local demand, will be manufactured in strips 48 inches wide. The Canadian tariff now greatly encourages the domestic manufacture of such products, and it is currently reported that in the near future the Canadian government will increase the duty from 10 to 35%.

Maine Pulp Mill Sold

The Androscoggin Pulp Company of South Windham, Maine, has been purchased by Schluter & Co., Inc., for the account of associates. No public offering is contemplated.

The Androscoggin Pulp Company, established in 1870, ranks as the oldest pulp manufacturing concern in the state of Maine. Present plans do not call for any important change either in manufacturing methods or products.

The company's existing list of products includes: ground wood pulp and wood pulp board for milk cap boards, mill wrappers, case liners, container fibre board, fiberbox partitions, teft jute board, hook match board, winding board and non-tarnish board.

New Chipper At Hawley Plant

Hawley Pulp & Paper Company mill at Oregon City is installing a new 64" power feed chipper in its sulphite mill. The chipper is a recently developed product of Hesse-Ersted Iron Works, Portland, and the one made for the Hawley mill is the eleventh to be installed. All have gone into Western mills.

The disc of the chipper carries four knives and operates at a speed of 400 revolutions per minute, giving a total of 1600 cuts per minute. The manufacturer says it can handle up to 16 cords per hour, because of its certain, high speed operation and positive feed. It is also claimed that it provides very uniform chips. It replaces an 84" chipper at the Hawley plant.

Mexican sugar mills have substituted crepe paper bag liners of domestic manufacture for those formerly imported from the United States and Sweden. The domestic product compares favorably with the imported article. The daily capacity of the mill is around 20,000 liners, which are made up in any thickness or size desired. The standard colors are blue and brown. In addition for lining sugar sacks, these liners are also used as a liner for flour and coffee bags.

Grain Products, Ltd., is a company being organizeed in Los Angeles by Stanley S. Stenaker, 1419 California Reserve Building. The company does not disclose the nature of its business, but anticipates the consumption of a considerable volume of paper products.

Book Papers Not Best For Permanent Records

Tests of current commercial book papers have been made at the Bureau of Standards to determine their value for the preservation of valuable records. The properties studied were: Strength; chemical purity, both cellulosic and non-cellulosic; and stability under an accelerated aging test made by heating the papers.

As with other types of record papers studied, their suitability for permanent records was found to be dependent on their strength and purity, neither of which bore a close relation t othe kind or quality of the fibrous raw materials employed in their manufacture. In general, these papers were found to have poorer qualities for permanent record use than those found in writing papers, and this is attributed to the more severe treatment given the fibers in obtaining the required printing qualities.

Based upon a classification system previously devised for record papers, and on the test results obtained for the book papers, a suggested classification of papers for use in publications has been formulated. This details the properties considered desirable in papers for all types of printed records, permanent to temporary.

This study is fully described in the Bureau of Standards Journal of Research for September.

Plenty Of Water For Power

The Crown Willamette and Hawley mills at West Linn and Oregon City, respectively, have been notified by the Portland Electric Company that the water in the Willamette river is high enough at the Oregon City falls to provide a surplus beyond power-making requirements for use in making pulp. The notification was effective November 1.

However, it is expected that unless unusually heavy rains set in the water will be down again for a short time. The two mills make the bulk of their pulp in the seven months of the year when the water is high.

Will Study Pulpwood Block Pile Losses

Losses of pulpwood through deterioration in block piles and in other storage are being investigated by the technical sections of the Canadian Pulp & Paper Association, with a view to finding means for minimizing the loss of wood through decay.

The Forest Products Laboratory of Canada, co-operating with the association, will conduct a survey of pulpwood in block piles and in water storage at several representative pulp and paper mills, to find out the approximate amount and the nature of wood decay.

Cutting Pulpwood In Grays Harbor Region

Several new pulpwood cutting operations have been established in the Grays Harbor district of Southwestern Washington. The work has been inaugurated in part to relieve an unemployment situation, but it serves a practical purpose also in supplying the 150-ton bleached sulphite pulp mill of the Grays Harbor Pulp & Paper Company at Hoquiam with pulpwood. The pulp mill uses both chips derived from sawmill wastes originating in the vicinity and cordwood cut on the stump.

D. B. Davies Visits San Francisco

D. B. Davies, general manager of the Rainier Pulp & Paper Company, Shelton, Washington, made a week's trip to San Francisco, recently for consultation with head officials of the company. The trip was made by auto, and a day on the return spent at the Camas mills.

S·A·F·E·T·Y

FIRST — LAST — ALWAYS

The best safety device known is a careful man

Pacific Coast Division
Pulp and Paper Section
NATIONAL SAFETY COUNCIL
ROBERT H. SCANLON
Regional Director
Powell River Co., Ltd.
Powell River, B. C.

SAFETY
is just common sense
continuously applied

STATEMENT OF ACCIDENT EXPERIENCE—SEPTEMBER, 1931

(Mills in the State of Washington)

COMPANY—	Hours Worked	Total Accidents	*Frequency Rate	Days Lost	Severity Rate	Standing
Fibreboard Products Inc., Sumner	33,976	0	0	0	0	1
Pacific Straw Paper & Board Co., Longview	17,527	0	0	0	0	2
Shaffer Box Co., Tacoma	13,371	0	0	0	0	3
Everett Pulp & Paper Co., Everett	61,294	0	0	31	.505	4
Crown Willamette Paper Co., Camas	265,050	4	15.1	92	.347	5
Inland Empire Paper Co., Millwood	59,564	1	16.8	40	.672	6
Grays Harbor Pulp & Paper Co., Hoquiam	58,551	1	17.1	6	.102	7
Longview Fibre Co., Longview	96,283	3	31.2	20	.208	8
Washington Pulp & Paper Co., Port Angeles	57,672	2	34.7	2	.035	9
National Paper Products Co., Port Townsend	56,457	2	35.4	28	.496	10
Puget Sound Pulp & Timber Co., Bellingham	27,560	1	36.3	31	1.125	11
Columbia River Paper Mills, Vancouver	44,261	2	45.2	41	.926	12
Rainier Pulp & Paper Co., Shelton	57,286	4	69.8	26	.454	13
Puget Sound Pulp & Timber Co., Everett	50,545	4	79.1	65	1.286	14
Fibreboard Products Inc., Port Angeles	30,968	5	161.4	68	2.196	15

The following mills not reporting: Pacific Coast Paper Mills. Mills not in operation: Cascade Paper Co., Tumwater Paper Mills, St. Regis Kraft Co., Puget Sound Pulp & Timber Co., Anacortes.

Steam Costs Will Be Watched This Winter!

If you have any reason to expect excessive steam costs in your mill, why not consider the advisability of avoiding them. It is possible that for a comparatively small expenditure, you can secure savings greater by far than the cost of the needed equipment. Our experienced engineering service is ready to help you determine whether or not additional apparatus can prove a paying investment for you this winter. Consult us now—before cold weather strikes.

ROSS BRINER ECONOMIZER
ROSS VAPOR ABSORPTION
ROSS GRINDER EXHAUST
ROSS-WAGNER
RECOVERY SYSTEM
FANS - BLOWERS
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J. O. ROSS ENGINEERING CORPORATION

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Beloit Executive Sees Doom of Obsolete Machine

"We are still firm in our belief that the reason certain mills are shut down is not so much over-production as an attempt to make an old machine outlive its usefulness and still stay on the market." So writes G. A. Macklem, vice president in charge of sales for the Beloit Iron Works, builders of paper mill machinery.

In the October, 1931, number of PACIFIC PULP AND PAPER INDUSTRY an article entitled "Overproduction—Is It Fact or Fancy?" presented the thought that the paper industry was operating at average conditions when four-fifths of its rated installed capacity was busy. The distinction between idle tonnage and obsolete tonnage was emphasized, and it is upon that point mainly that Mr. Macklem enlarges in further discussing the October article. He goes on to say:

"In most cases where mills or machines are shut down they are cases where the machinery was good at one time, but 25, 30 or 40 years later badly out of date and yet trying to compete with a modern machine, which is impossible, therefore we believe that there are going to be a great many shut-downs in the future. The mills will either go out of business or rebuild as in most cases they are not able to follow the pace set by the modern machine.

"It will interest you to know that the very latest news mill, where we have placed a news machine, the Blandin Paper Company, is built without a window in the entire mill. The air comes through the basement, is washed, clean, pure and sweet, goes up through the paper machine, circulates through the machine room, pure air, goes up through the hood over the machine carrying the moisture with it.

"This air passes through an economizer which separates the condensate, delivers it back to the mill, and delivers the air out into the open. This mill has been running only a few months and is very satisfactory so far.

"The writer happened to be in the mill during August when the thermometer in that Minnesota territory was 102. The mill was comfortable and, comparatively speaking, pleasant, thus you can see the circulation was good, but with this modern arrangement the temperature and the quality of the air is always what it should be.

"You on the West Coast are not affected by outside heat or cold, thus you could depend on the steam as applied to the dryers always giving the same results, either in winter or in summer.

"The boys like working in the mill and at least everything indicates that the entire mill is very far ahead of anything that has ever been worked out in the way of a paper mill up to this time. The machine started right off at high speed, has run as fast as 1,200′, but is running all the time about 1,100′. However, when everyone gets accustomed to the machine and the men all thru the mill get properly broken in they expect to run 1,500′ per minute with this machine. It is built to run that fast and yet give as good a formation and all of the things that enter into a new machine as the present machines in operation give from 800′ to 1,000′ per minute.

"We only speak of this to illustrate our point that the mills built many years ago just must come up and get in line with the new developments or ultimately will have to close their doors in favor of the newer appliances and methods of manufacturing paper."

United Chromium Wins Infringement Suit

On October 20th a decision in favor of United Chromium, Inc., was rendered by Judge Edwin S. Thomas of the District Court of the United States, District of Connecticut.

The suit in equity charged the International Silver Company of Meriden, Connecticut, with infringement of the Fink patent, U. S. Pat. No. 1581188, relating to the process of chromium plating.

In Judge Thomas' opinion "all claims in suit are valid and infringed by the defendant's process."

"It follows, therefore, that there may be a decree for the plaintiff for an injunction, reference and accounting.

"Submit decree accordingly."

Waxed Tissue Paper Simplification Program

The division of simplified practice of the National Bureau of Standards has announced that simplified practice recommendation covering waxed tissue paper, has received the required degree of support from the industry and may be considered effective from November 1, 1931.

Waxed paper covered by this recommendation is paper treated with paraffin wax in order to fill the pores of the paper to make it resistant to moisture and to odors. Its principle use is to protect food products from dust and vermin. The familiar bread wrapper is a typical example.

The estimated total value of the annual production of waxed paper is $25,000,000. The volume exceeds 250,000,000 pounds per annum.

SULPHITE SUPERINTENDENT man with 12 years technical and practical training desires change. Up on all methods of cooking. Address reply Box 117, care Pacific Pulp and Paper Industry, 71 Columbia, Seattle, Wash.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912

Of Pacific Pulp & Paper Industry, published monthly—except in March, when publication is semi-monthly—at Seattle, Washington, for October, 1, 1931.

State of Washington, County of King,—ss.

Before me, a Notary Public in and for the State and county aforesaid, personally appeared Lawrence K. Smith, who having been duly sworn according to law, deposes and says that he is the business manager of the Pacific Pulp & Paper Industry, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 411, Postal Laws and Regulations, printed on the reverse of this form, to-wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:
Publisher, Consolidated Publishing Co., 71 Columbia St., Seattle, Wash.
Editor, Lloyd E. Thorpe, 71 Columbia St., Seattle, Wash.
Managing editor (none).
Business manager, L. K. Smith, 71 Columbia St., Seattle, Wash.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.)
Consolidated Publishing Co., 71 Columbia St., Seattle, Wash.
Miller Freeman, Daniel L. Pratt, Lawrence K. Smith, W. E. Crosby, G. W. Cain, all of 71 Columbia St., Seattle, Wash.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in case where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds or other securiteis than as so stated by him.

LAWRENCE K. SMITH, Business Manager.

Sworn to and subscribed before me this 28th day of September, 1931.
(Seal) RALPH H. MOULTON.
(My commission expires June, 1932.)

Other paper manufacturers are saving with TIMKENS—why not YOU?

For years friction has continually robbed the paper industry of a large percentage of its hard-earned profits, but now its depredations are being halted.

Forward-looking manufacturers like the Champion Coated Paper Company have seen and are grasping the opportunities for savings afforded by Timken Bearings.

Super-calender production has already been increased 37½% by placing calender stacks on Timkens. Calendering speed has been stepped up 40% without any change in power equipment.

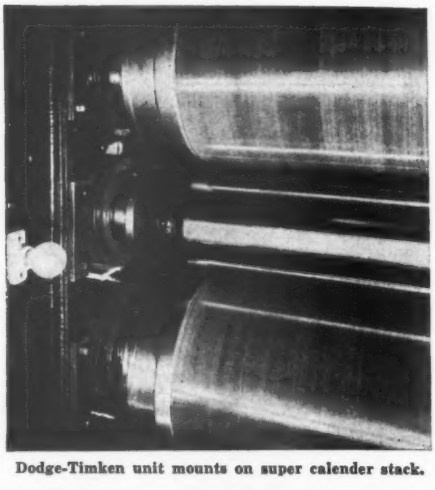
With calender and winding mechanism rolls freed from friction's drag, paper speeds of from 900 to 1300 feet per minute have been made possible. Paper breakage has been reduced. And while speeds have gone up, power and lubricant consumption have gone down. In fact the power reading at Champion is approximately one-half of what it was with lower production on plain bearing super calender stacks.

But it is not only in calenders that Timken Bearings have proved their ability to increase output and cut costs. In paper making machines—on wire rolls, press rolls, felt rolls, drier rolls and couch rolls—equally splendid results have been obtained.

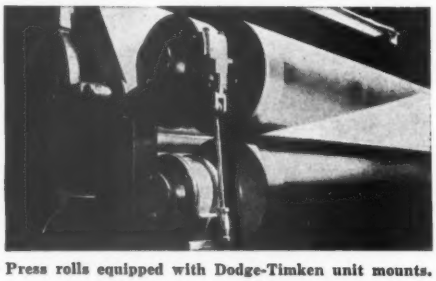
Timkenize your mill now for maximum output and profits. Consult the builder of your machines.

THE TIMKEN ROLLER BEARING CO., CANTON, O.

TIMKEN *Tapered Roller* **BEARINGS**

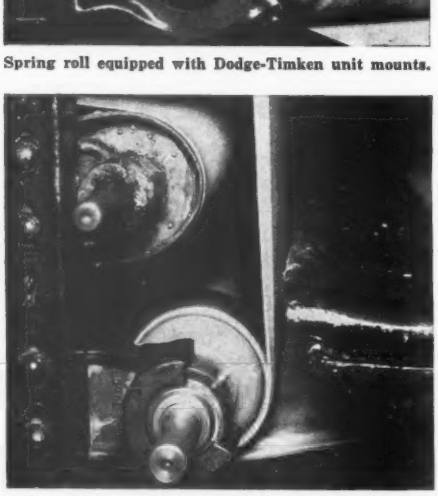


Dodge-Timken unit mounts on super calender stack.



Press rolls equipped with Dodge-Timken unit mounts.

Spring roll equipped with Dodge-Timken unit mounts.



Felt rolls on Dodge-Timken unit mounts (lower) and plain bearings. No lubricant leakage with Timkens.

TECHNICAL DIRECTOR or assistant superintendent thoroughly experienced in directing practical and technical operations in sulphite and paper specialty mills. References on request. Address reply Box 116, care Pacific Pulp and Paper Industry, 71 Columbia Street, Seattle, Wash.

Will Install Booster Pumps

The Rainier Pulp & Paper Company is planning the construction of a power line from its mill to points on the waste liquor line so that booster pumps may be installed and operated at midway points. Under the recent changes in waste liquor disposal practice the liquor is now pumped to some "dry lakes" where it is evaporated. Pumping must be against a head of 286 feet. The line has broken under heavy pressure and booster pumps are planned to ease the load.

A New Volume On Paper Making

"The Preparation of Paper-Pulp" by Dr. Schwalbe constitutes the second part to the first volume, entitled "Raw-Materials, Paper-Stocks, and Pulps for the Manufacture of Paper", of a compendium covering the entire fabrication of cellulose, under the title: **"Technique and Practice of Paper-Making"** by Prof. Dr. Emil Heuser and Dr. Erich Opfermann, and published by Otto Elsner Verlage-Ges. m.b.h., Berlin.

Dr. Schwalbe, who is now technical director of the Dill & Collins Paper Co., Philadelphia, gives a full and comprehensive discussion of the subject of the preparation of paper-pulp. The 464 pp., large-size book (8½ in. by 11 in.) is divided into 6 chapters, which are:

Chapter I. The Preparation of Old Paper and Waste-Stock.
Chapter II. The Construction of the Beater.
Chapter III. The Grinding to Pulp.
Chapter IV. The Sizing of Paper.
Chapter V. Fillers.
Chapter VI. The Dyeing of Paper.

The book is profusely illustrated with cuts and diagrams, contains many valuable tables and also records of hitherto unpublished researches. The theoretical and practical aspects are happily combined and the work shows a thoro-going combing of the literature on the subject.

"The Preparation of Paper-Pulp" fills a need in presenting in a single book the subject, incorporating and crystallizing the multitude of facts and theories brot out by numerous investigators. It is a worthy volume in the series of **Technique and Practice of Paper-Making.**—Reviewed by Rudolf E. Zane, Chemical Engineering Department, University of Washington.

IMPORTS OF PULP WOOD AND WOOD PULP INTO THE UNITED STATES BY COUNTRIES AND CUSTOMS DISTRICTS

August, 1931

Compiled by the U. S. Department of Commerce, Bureau of Foreign and Domestic Commerce
(Figures Subject to Revision.)

PULP WOODS

	Rough				Peeled				Rossed			
	Spruce		Other		Spruce		Other		Spruce		Other	
	Cords	Dollars	Cords	Dollars	Cords	Dollars	Cords	Dollars	Cords	Dollars	Cords	Dollars
COUNTRIES—												
Canada	56,985	624,185	819	7,483	63,763	741,742	19,743	190,728	2,203	28,113	.....	.....
Total	**56,985**	**624,185**	**819**	**7,483**	**63,763**	**741,742**	**19,743**	**190,728**	**2,203**	**28,113**	.....	.....

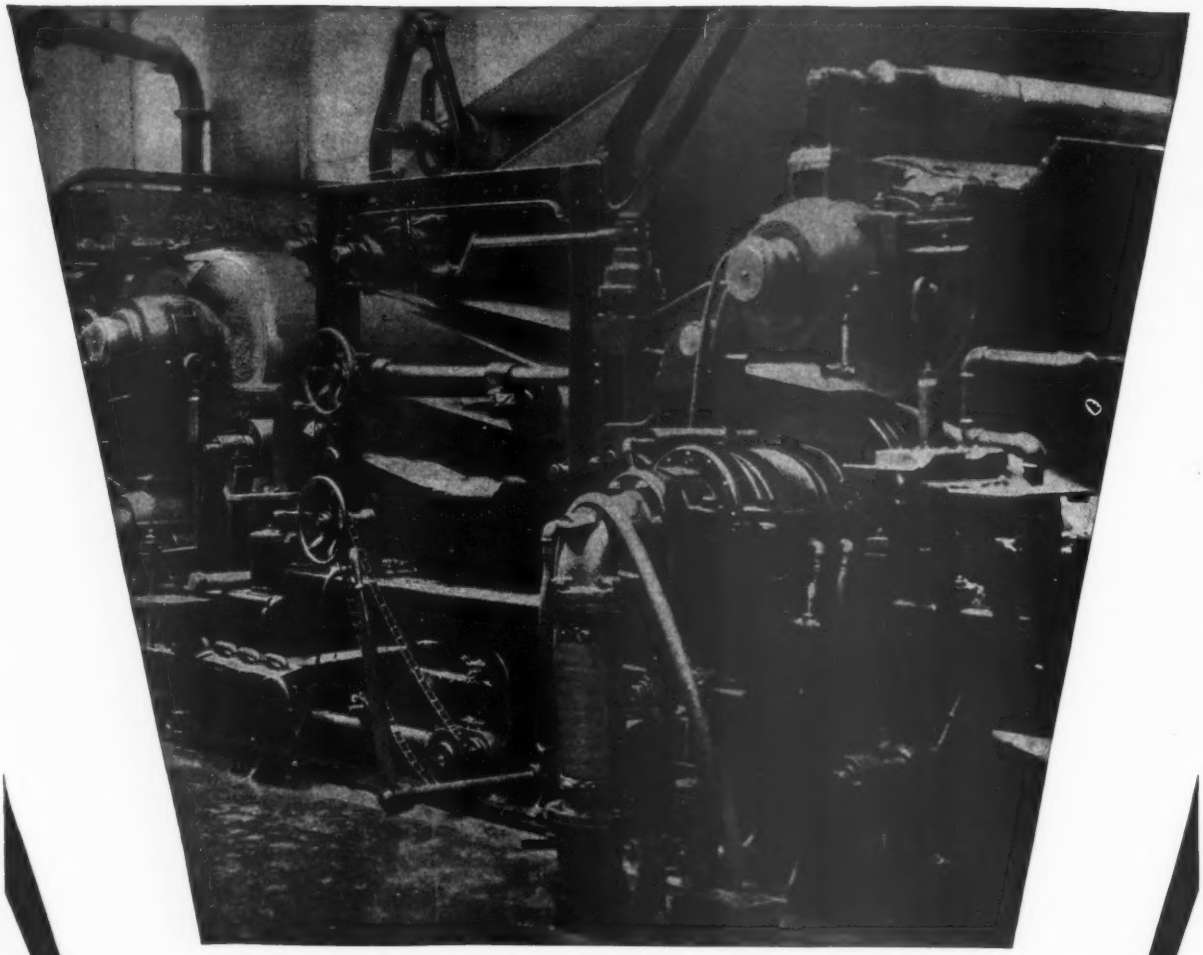
Total imports of pulpwood, August, 1931, 143,513 cords—$1,592,251.

WOOD PULP

	Mechanically Ground				Chemical Unbleached Sulphite		Chemical Bleached Sulphite		Chemical Unbleached Sulphate		Chemical Bleached Sulphate		Soda Pulp, Unbleached and Bleached	
	Unbleached		Bleached											
	Tons	Dollars	Tons	Dollars	Tons	Dollars	Tons	Dollars	Tons	Dollars	Tons	Dollars	Tons	Dollars
COUNTRIES:														
Austria	30	1,227	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Czechoslovakia	150	3,416	.....	.....	108	5,030	658	35,180	.....	.....	.....	.....	.....	.....
Estonia	.....	.....	.....	.....	1,093	43,870	.....	.....	.....	.....	.....	.....	.....	.....
Finland	1,079	28,960	52	1,569	5,278	248,604	378	18,965	4,141	127,447	96	3,869	.....	.....
Germany	.....	.....	.....	.....	2,586	105,385	4,540	263,608	.....	.....	.....	.....	.....	.....
Italy	.....	.....	.....	.....	.....	.....	300	13,420	.....	.....	.....	.....	.....	.....
Norway	.....	.....	75	1,728	125	3,512	100	4,705	200	6,739	.....	.....	.....	.....
Poland and Danzig	.....	.....	.....	.....	103	2,409	.....	.....	116	3,342	.....	.....	.....	.....
Sweden	.....	.....	301	7,068	28,722	1,241,918	3,441	183,115	26,378	840,686	253	7,222	.....	.....
United Kingdom	.....	.....	.....	.....	300	13,776	.....	.....	.....	.....	.....	.....	.....	.....
Yugo. and Albania	.....	.....	.....	.....	856	26,853	.....	.....	.....	.....	.....	.....	.....	.....
Canada	11,200	265,282	.....	.....	4,847	195,748	16,931	969,910	1,726	102,174	950	85,083	221	12,377
Total	**12,459**	**298,885**	**428**	**10,365**	**44,018**	**1,887,105**	**26,348**	**1,488,903**	**32,561**	**1,080,388**	**1,299**	**96,174**	**221**	**13,277**
CUSTOMS DISTRICTS—														
Maine and New Hampshire	2,261	63,638	.....	.....	2,798	125,726	3,185	178,042	700	18,693	.....	.....	.....	.....
Vermont	1,095	26,834	.....	.....	234	10,358	1,337	76,683	1,369	91,243	833	76,145	86	5,328
Massachusetts	.....	.....	.....	.....	4,228	184,851	1,792	101,614	5,303	170,024	28	1,383	.....	.....
St. Lawrence	1,135	28,968	.....	.....	375	17,347	2,729	163,982	16	1,055	23	1,219	107	6,499
Rochester	32	1,113	.....	.....	.....	.....	31	1,646	.....	.....	.....	.....	.....	.....
Buffalo	825	20,963	.....	.....	1,218	46,234	812	62,535	.....	.....	.....	.....	.....	.....
New York	130	3,867	128	3,722	12,934	532,213	849	48,259	4,072	144,249	.....	.....	.....	.....
Philadelphia	2,093	51,853	250	5,213	6,399	287,685	1,079	58,881	4,451	151,172	.....	.....	.....	.....
Maryland	355	8,269	50	1,430	11,897	519,426	6,172	309,637	4,687	146,273	321	9,708	.....	.....
Virginia	563	16,426	.....	.....	1,728	83,054	1,257	70,879	7,806	224,151	.....	.....	.....	.....
Mobile	30	1,227	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New Orleans	99	2,240	.....	.....	.....	.....	450	26,231	1,571	50,594	.....	.....	.....	.....
Los Angeles	.....	.....	.....	.....	503	28,293	.....	.....	197	3,251	.....	.....	.....	.....
San Francisco	.....	.....	.....	.....	482	12,534	.....	.....	88	1,887	.....	.....	.....	.....
Washington	.....	.....	.....	.....	98	3,744	110	4,923	.....	.....	.....	.....	.....	.....
Dakota	22	609	.....	.....	.....	.....	198	9,993	253	7,989	.....	.....	.....	.....
Duluth and Superior	471	8,341	.....	.....	186	3,555	.....	.....	.....	.....	.....	.....	.....	.....
Wisconsin	.....	.....	.....	.....	.....	.....	.....	.....	1,478	52,892	.....	.....	.....	.....
Michigan	3,307	63,992	.....	.....	938	32,085	6,347	375,598	.....	.....	94	7,719	28	1,450
Chicago	41	545	.....	.....	.....	.....	.....	.....	570	16,915	.....	.....	.....	.....
Total	**12,459**	**298,885**	**428**	**10,365**	**44,018**	**1,887,105**	**26,348**	**1,488,903**	**32,561**	**1,080,388**	**1,299**	**96,174**	**221**	**13,277**

Total imports, all grades of woodpulp, August, 1931—117,334 Tons—$4,875,097.

DOWNINGTOWN



THIRD PRESS . . . . . SUCTION ROLL

The Laurentide Mill of the Canada Power and Paper Corporation at Grand Mere, Quebec, has eight Downingtown Suction Rolls in third press. The FIRST ONE was put in during 1923 and the remainder during 1925 and 1926. This is an impressive index as to the value of Third Press Suction Rolls on newsprint. Downingtown Suction Rolls are made in Cantilever and Standard Types and are fully adjustable while running. Their numerous features are fully described in our Catalog No. 103. Write for it. The Downingtown Manufacturing Company, Downingtown, Pennsylvania.

The Paper and Pulp Industry in August, 1931

According to identical mill reports to the Statistical Department of the American Paper and Pulp Association from members and cooperating organizations, the daily average of total paper production in August decreased 4% under July and was 6% under August, 1930. The daily average wood pulp production in August was 6% below July, 1931, and 12% under August, 1930.

Compared with August a year ago, the daily average production registered a decrease in the following grades: Newsprint, uncoated book, paperboard, writing, hanging and building papers. Compared with July, 1931, the following percentage decreases were registered in the daily average production: Newsprint, 11.2%; paperboard, 4.8%; bag, 1.1%, and building, 10.1%.

The eight months' cumulative total of production of paper was 9.9% below the corresponding period in 1930 while shipments were 9.2% smaller than a year ago. All the major grades of paper, excepting newsprint, have shown improvement in production at the end of the eight-month period as compared with the end of the seven-month period.

The eight months' cumulative total of wood pulp production for this year was reported as 17% below the level of the same period in 1930.

Total shipments of wood pulp to the outside market were 31.7% below the level of the eight months' total of 1930. Bleached sulphite and mitscherlich pulp shipments to the open market were greater than in the first eight months of 1930 while kraft pulp shipments registered no change from the 1930 level.

Total wood pulp inventories showed a continued decrease and at the end of August, were 25% below the level of August, 1930. All grades, excepting easy bleaching pulp, showed inventories below the level of August, 1930.

REPORT OF PAPER OPERATIONS IN IDENTICAL MILLS FOR THE MONTH OF AUGUST, 1931

GRADE—	Production Tons	Shipments Tons	Stocks on Hand End of Month— Tons
Newsprint	88,344	89,047	32,607
Book, Uncoated	70,224	68,771	48,269
Paperboard	153,523	154,392	58,695
Wrapping	45,537	44,469	43,901
Bag	11,934	12,797	5,133
Writing, etc.	21,109	21,961	46,926
Tissue	6,687	6,949	4,128
Hanging	3,261	2,337	3,029
Building	4,647	4,997	2,963
Other Grades	14,141	14,581	13,945
Total, All Grades August 1931	419,407	420,301	259,596
Total, All Grades, 8 Mos., 1931	3,518,720	3,519,452	259,596
Total, All Grades, 8 Mos., 1930	3,906,881	3,876,675	266,248

REPORT OF PAPER OPERATIONS IN IDENTICAL MILLS FOR THE MONTH OF AUGUST, 1931

GRADE	Production Tons	Used During Month—Tons	Shipped During Month—Tons	Stocks on Hand End of Month— Tons
Groundwood	56,965	63,610	1,507	59,432
Sulphite News Grade	26,386	25,243	797	6,470
Sulphite Bleached	18,868	16,257	2,652	2,859
Sulphite Easy Bleaching	2,379	1,901	160	1,203
Sulphite Mitscherlich	2,716	2,595	702	1,325
Kraft Pulp	26,987	22,949	4,610	4,228
Soda Pulp	16,550	13,765	2,712	2,932
Pulp—Other Grades	445	309	68	231
Total, All Grades August, 1931	151,296	146,629	13,208	78,680
Total, All Grades, 8 Mos. 1931	1,371,011	1,244,501	117,102	78,680
Total, All Grades, 8 Mos. 1930	1,652,442	1,441,672	171,399	104,219

News Print Production—September, 1931

The News Print Service Bureau's Bulletin No. 165, states that production of news print paper in Canada during September, 1931, amounted to 178,412 tons and shipments to 178,181 tons. Production in the United States was 91,241 tons and shipments 90,303 tons, making a total United States and Canadian news print production of 269,653 tons and shipments of 268,484 tons. During September, 24,901 tons of news print were made in Newfoundland and 1,410 tons in Mexico, so that the total North American production for the month amounted to 295,964 tons.

The Canadian mills produced 231,906 tons less in the first nine months of 1931 than in the first nine months of 1930, which was a decrease of 12 per cent. The output in the United States was 110,894 tons or 11 per cent less than for the first nine months of 1930. Production in Newfoundland was 5,860 tons or 3 per cent more in the first nine months of 1931 than in 1930 and in Mexico 1,065 tons more, making a continental decrease of 335,875 tons or 11 per cent.

During September the Canadian mills operated at 57.7 per cent of rated capacity, United States mills at 63.6 per cent, Newfoundland mills at 102.3 per cent and Mexican mills at 79.4 per cent, making a continental average of 61.8 per cent. Stocks of news print at Canadian mills totalled 50,451 tons at the end of September and at United States mills 33,517 tons, making a combined total of 83,968 tons which was equivalent to 4.6 days' average production.

NORTH AMERICAN PRODUCTION

	Canada	United States	Newfoundland	Mexico	Total
1931—September	178,412	91,241	24,901	1,410	295,964
Nine Months	1,670,150	874,248	219,868	11,732	2,775,998
1930—Nine Months	1,902,056	985,142	214,008	10,667	3,111,873
1929—Nine Months	1,993,881	1,038,748	188,385	14,024	3,235,038
1928—Nine Months	1,732,563	1,047,602	170,726	12,185	2,963,076
1927—Nine Months	1,519,049	1,135,696	150,385	10,778	2,815,908
1926—Nine Months	1,380,722	1,259,506	133,590	9,572	2,782,390
1925—Nine Months	1,115,232	1,127,436	59,381	9,502	2,311,551
1924—Nine Months	1,015,793	1,109,246	48,552	8,622	2,182,213

The Paper Industry In Japan

Production and sales—August, 1931.

	Production (Lbs.)	Sales (Lbs.)
Printing Paper—		
(Superior Quality)	12,777,164	10,223,074
(Ordinary Quality)	11,782,786	8,855,928
Writing Paper	3,168,594	1,794,057
Simili Paper	11,356,890	8,149,534
Art Paper	1,201,633	1,022,072
News Printing Paper	41,590,347	42,073,463
Sulphite Paper	5,345,884	5,155,216
Colored Paper	1,808,058	1,582,444
Wrapping Paper	11,823,353	9,960,896
Chinese Paper	1,631,187	645,013
Board Paper	6,799,062	5,721,934
Sundries	3,825,795	3,745,573
Total	113,110,753	98,929,204

Japan's Pulp Imports—August, 1931

Japan imported chemical pulp in August, 1931, as follows (amount stated in pounds): Sweden, 2,578,133; U. S. A., 5,125,600; Canada, 10,192,800; Europe, 224,933; total, 18,121,466.

Rainier Pulp Lists More Stock

The Rainier Pulp & Paper Company, operating a 150-ton sulphite pulp mill at Shelton, Washington, has secured approval to list an additional 15,000 shares of its Class A common stock on the San Francisco exchange. The listing provides for conversion of the company's first mortgage convertible bonds recently issued.

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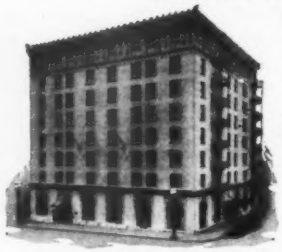

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Shanghai News Stocks Low

Stocks of news print in Shanghai are reported very low, but stocks of M. G. cap are believed sufficient for present requirements, according to a radiogram received from Commercial Attache Arnold. Advance orders for paper decreased substantially during the month of September owing to the tendency on the part of Chinese dealers to await Sino-Japanese developments.

The boycott against Japanese goods has turned purchases of lower priced M. G. cap papers and news print to American and European firms.

Suspension of gold payments in the United Kingdom, Norway, and Sweden and depreciation of sterling foreign exchange is likely to give these countries temporary advantage in the paper market. However, Shanghai importers are anticipating that price increases in these countries will proportionately offset advantage thus gained. Continental mills are now quoting prices in gold dollars. Local retail prices are firm with a tendency upward. Paper shipments to the interior are expected to be resumed in the near future.

GENERAL SUPERINTENDENT would like position in sulphite specialty mill. Practical and technical training 12 years. References. Address reply Box 115, care Pacific Pulp and Paper Industry, 71 Columbia Street, Seattle, Wash.

Pioneer Paper Increase Site Acreage

Pioneer Paper Company, Los Angeles manufacturers of roofing paper, have recently purchased two and a half acres adjoining their plant in Vernon, according to a recent announcement. Just what plans for the immediate utilization of the land the company has made, was not revealed. But it was said that the company feels that they should look toward manufacturing a greater variety of products and that this was the time to prepare for such manufacture.

The company has recently installed a very expensive machine especially designed for them to regulate the coloring in shingles. The entire set-up cost about $50,000. They have also installed a machine to coat the edges of shingles with composition to seal them, thus giving them greater life.

Sweden Increases News Production

Swedish newsprint production during the month of August totaled 24,066 metric tons (metric ton=2,205 pounds) as against 19,571 tons during the corresponding month in 1930.

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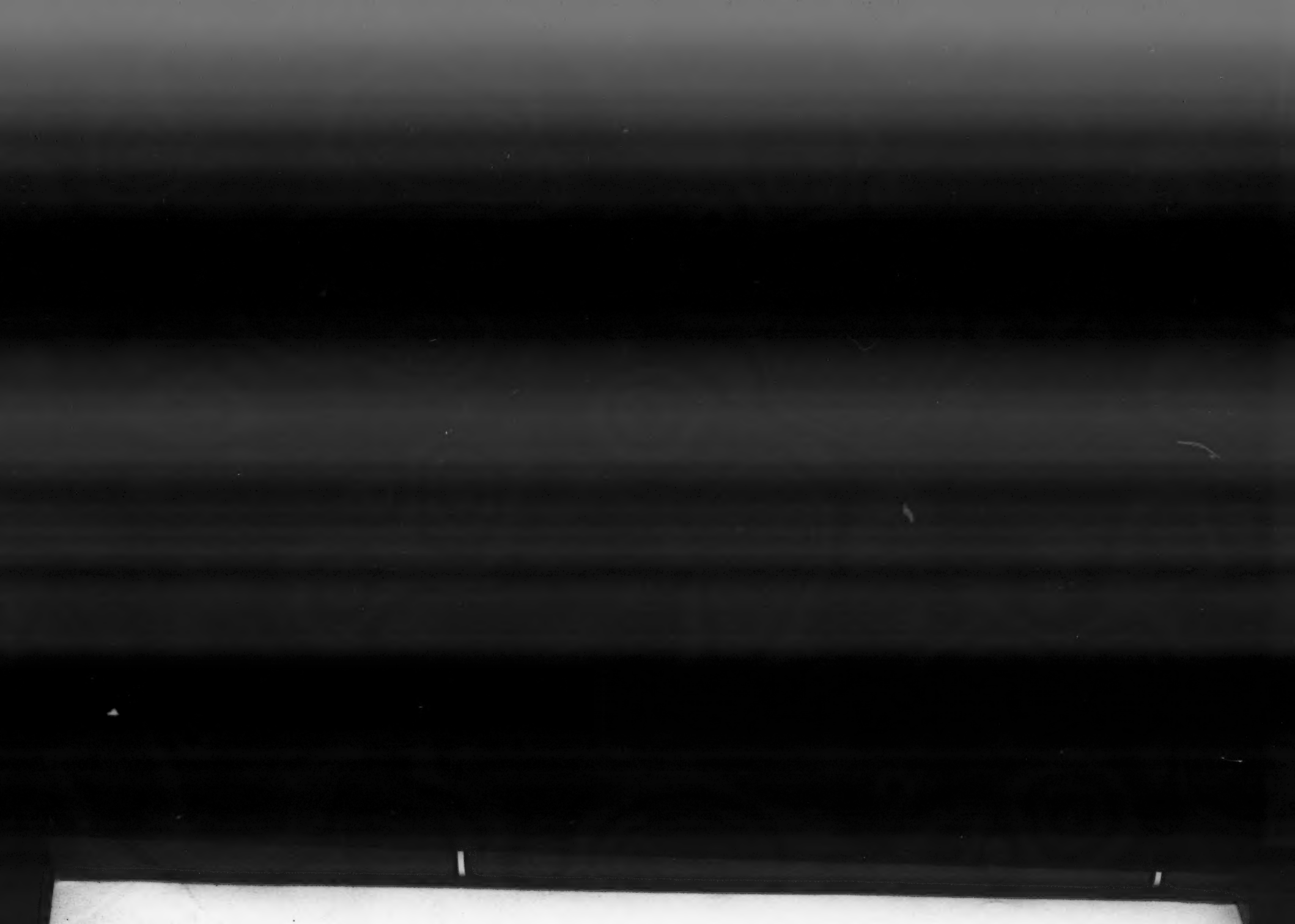
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